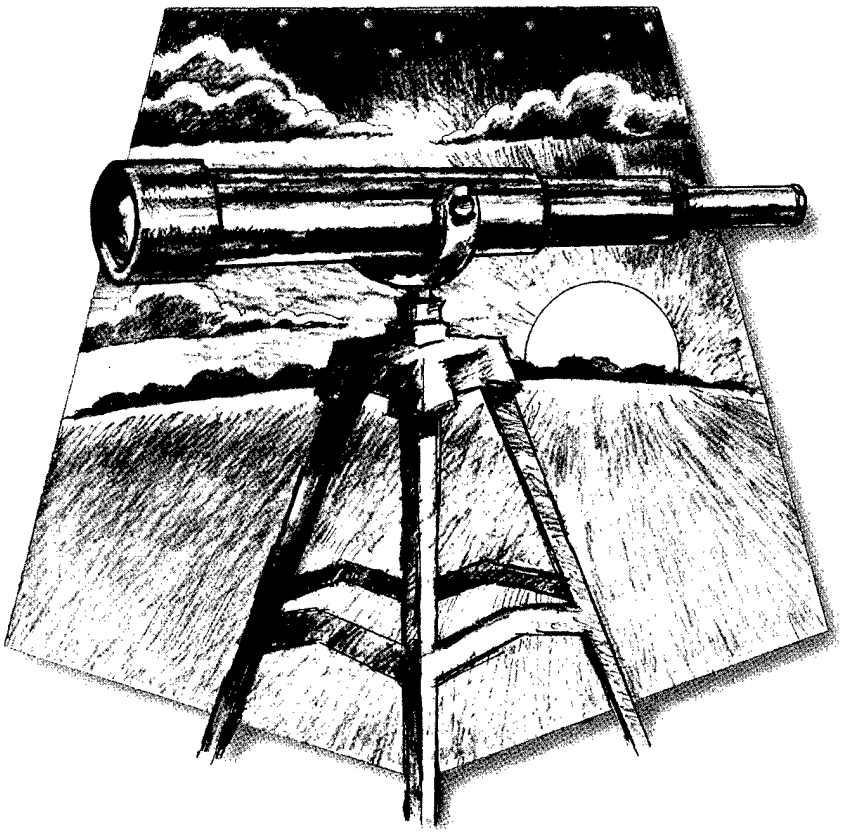
CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

Long-Term Budgetary Pressures and Policy Options



A REPORT TO THE SENATE AND
HOUSE COMMITTEES ON THE BUDGET

MAY 1998

LONG-TERM BUDGETARY PRESSURES AND POLICY OPTIONS

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NOTES

Unless otherwise specified, all years in this report are calendar years.

Numbers in the text and tables may not add to totals because of rounding.

Data from the national income and product accounts (NIPAs) for 1997 are consistent with CBO's economic forecast presented in *The Economic and Budget Outlook: Fiscal Years 1999-2008* (January 1998). That forecast was prepared before the advance estimates of gross domestic product and its components for 1997 were released on January 30, 1998.

Preface

The Congress has been concerned for some time about the impact that the continuing growth of per-enrollee health costs and the upcoming retirement of the large baby-boom generation will have on the federal budget. Those two factors will place growing pressure on the budget, largely because they will increase spending on Social Security, Medicare, and other programs that serve the elderly.

For the past two years, the Congressional Budget Office (CBO) has prepared reports on the long-term budgetary outlook and some of the policy options for controlling the growth of Social Security and Medicare spending. The current report updates those earlier reports. In accordance with CBO's mandate to provide objective and impartial analysis, it contains no recommendations.

The long-term projections presented in Chapters 1, 2, and 5 were prepared by CBO's Macroeconomic Analysis Division under the supervision of Robert Dennis and Douglas Hamilton. John Sturrock wrote Chapter 1, and Benjamin Page wrote Chapter 2. Douglas Hamilton and Benjamin Page prepared Chapter 5. Benjamin Page carried out the macroeconomic modeling in those chapters. Paul Diller and Michael Simpson provided research assistance.

The analysis of the policy options for Social Security and Medicare in Chapters 3 and 4 was prepared by CBO's Health and Human Resources Division under the supervision of Joseph Antos. Ralph Smith wrote Chapter 3, and Sandra Christensen wrote Chapter 4. The long-term Social Security estimates in Chapter 3 were made by the Office of the Actuary in the Social Security Administration. Sandra Christensen prepared the long-term Medicare estimates in Chapter 4. Box 1-2 was prepared by Julia Matson, and Box 4-1 was written by Linda Bilheimer. Douglas Hamilton, Ralph Smith, and Sandra Christensen prepared the summary.

Sherry Snyder supervised the editing of the report, and Kathryn Quattrone supervised production. Major portions were edited by Sherry Snyder, Melissa Burman, Leah Mazade, and Christian Spoor. Sharon Corbin-Jallow, Linda Lewis Harris, and Ron Moore assisted in producing sections of the report. Kathryn Quattrone prepared the report for publication, with assistance from Martina Wojak-Piotrow. Laurie Brown prepared the electronic version for CBO's World Wide Web site.

June E. O'Neill
Director

May 1998

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Contents

TABLES

FIGURES

BOXES

Summary

The budget will be balanced this year for the first time since 1969. And if current policies remain unchanged, the budget will show annual surpluses that grow to roughly $140 billion in 2008. The bright budgetary outlook will also provide economic benefits: by increasing national saving, the surplus will boost investment and spur economic growth.

However, the good budgetary news will not last forever. The large baby-boom generation will begin to retire in about 10 years, and as the demographic structure of the population changes, federal revenues will grow more slowly and outlays for Social Security, Medicare, and Medicaid will rise. Moreover, because spending per enrollee in Medicare and Medicaid is expected to climb faster than the average wage, the share of income spent on those programs will increase even without any change in demography. Because of those pressures, the Congressional Budget Office (CBO) projects that deficits will reemerge and grow in the years after 2008 unless current policies are changed.

The long-term deficit problem could be resolved by many combinations of spending reductions and tax increases. This report focuses on Social Security and Medicare because those programs are so large and so directly affected by the aging of the population. The approaches discussed in Chapters 3 and 4 illustrate the types of steps that could be taken to slow the growth in spending on those programs. The analysis in Chapter 5 shows how combinations of those options would reduce the size of the long-term fiscal imbalance. Although it will be difficult to limit spending on entitlements for the elderly in the face of the projected increase in the number of people eligible for them, doing so will confer substantial gains on the economy.

Changing Demography

Some simple demographic facts lie behind concerns about the long-run budgetary situation facing the United States. This country's population is aging. The Social Security Administration estimates that between now and 2030, the number of people age 65 or older will double, while the number of people ages 20 to 64 will increase by only about 15 percent (see Summary Table 1).

Some of that demographic change reflects the welcome fact that people are living longer today. Thanks to improved health care and healthier lifestyles, a growing proportion of the adult population now reaches age 65, and life expectancy at that age has increased by about 15 percent since 1970. When Medicare was created in 1965, the average person in the United States was expected at birth to live about 71 years. By 1990, that expected life span had risen to 75 years; by 2010, it is projected to increase to 78.

A second factor behind the demographic change is the baby boom, the large generation of Americans born between 1946 and 1964. In 2008, the oldest members of the baby boom will turn 62 and become eligible to claim early retirement benefits under Social Security. That date will mark the end of a period of favorable demographics that began with the retirement of the generation born between World War I and World War II, whose relatively small numbers are now providing a respite to the spending growth of Social Security and other entitlement programs for the elderly.

Besides straining entitlement programs, the retirement of the baby boomers will also significantly slow the growth of the labor force. The effect of having such a large group of workers leave the labor force will be accentuated by the fact that the high birth rate during the baby boom was followed by a much lower rate (a baby "bust"). As a result, the growth of the labor force will slow to a crawl between 2010 and 2020 and almost to a standstill between 2020 and 2030. That projection stands in stark contrast to the 2 percent annual growth that the labor force recorded from 1960 to 1989, and even to the 1 percent average annual growth rate expected over the next 10 years.

With more retirees and little growth in the number of workers, the share of elderly people in the adult population will increase significantly in coming decades. One measure of that demographic pressure is the 65-plus dependency ratio—the ratio of the number of people age 65 or older to the number of people ages 20 to 64. In 1950, the 65-plus dependency ratio was a little less than 15 percent. That ratio rose to about 20 percent in 1990, and the Social Security Administration expects it to swell to about 35 percent in 2030 and to more than 40 percent by 2070. Although other forecasters have different estimates, they generally agree on the basic story: the 65-plus dependency ratio will increase substantially over the coming decades.

As a result, both the outlay and revenue sides of the budget will be increasingly strained after 2008. Revenues will grow more slowly as the number of people working—and the economy—grows more slowly. At the same time, outlays for government programs that aid the elderly (Social Security, Medicare, and Medicaid) will rise as the number of people eligible to receive benefits from those programs expands.

Summary Table 1.
Population of the United States by Age, Calendar Years 1950-2070

Age Group	1950	1970	1990	2000	2010	2030	2050	2070
				In Millions of People				
Less Than 20 Years Old	53	81	75	81	81	83	84	85
20 to 64 Years Old	92	113	153	168	186	192	203	206
65 or Older	13	21	32	35	40	68	75	84
Total	158	215	260	285	307	344	362	376
				As a Percentage of the Total Population				
LessThan 20 Years Old	34	38	29	29	27	24	23	23
20 to 64 Years Old	58	53	59	59	61	56	56	55
65 or Older	8	10	12	12	13	20	21	22
Total	100	100	100	100	100	100	100	100
				As a Percentage of the Population Ages 20 to 64				
Less Than 20 Years Old	58	71	49	48	44	43	42	42
20 to 64 Years Old	100	100	100	100	100	100	100	100
65 or Older	14	18	21	21	21	36	37	41

SOURCE: Congressional Budget Office based on data from the Social Security Administration.

NOTE: Population as of July 1.

Growing Health Costs per Enrollee

The projected increase in Social Security spending as a share of gross domestic product (GDP) results largely from the surging number of people eligible for benefits, but the growth in Medicare and Medicaid also reflects an increase in spending per enrollee. The Social Security benefit paid to each recipient is set legislatively by a formula that depends on the recipient's history of wages. By contrast, Medicare and Medicaid are open-ended entitlement programs that place no dollar limits on the benefits provided to each enrollee. Over most of the programs' histories, benefits per enrollee have risen rapidly.

Indeed, the growth in per-enrollee costs is the main reason that federal spending for Medicare and Medicaid, now more than three-quarters of that for Social Security, is projected to overtake spending for Social Security within 10 years. The persistent growth in spending per enrollee reflects an increase in the volume and intensity of services provided through Medicare and Medicaid, and without a change in policy, those factors will continue to increase the burden of federal health costs in the years ahead. Thus, even if the 65-plus dependency ratio did not climb with the retirement of the baby boom, federal health spending would still be projected to rise faster than GDP and would put increasing pressure on the budget.

The Long-Term Budget Outlook

What would happen to deficits and the economy if U.S. budget policy did not change in the face of the impending retirement of the baby boomers? CBO has addressed that hypothetical question by projecting future government revenues and expenditures under various economic and demographic assumptions and examining their impact on the federal deficit and the economy.

In the first decade (1998-2008), the long-term projections match the baseline in CBO's January 1998 report, *The Economic and Budget Outlook: Fiscal Years 1999-2008*. Through 2008, taxes and mandatory spending reflect current law, and discretionary outlays grow with inflation, subject to their statutory caps. In the years beyond 2008, spending and revenues follow rules that reflect the impact of demographic changes and trends in costs. For Social Security and Medicare, CBO uses the growth projections from the official reports of the trustees of those programs, adjusting the numbers for differences between CBO's economic assumptions and those of the trustees. CBO also follows the trustees in assuming that the growth of health care costs per enrollee will gradually slow from current rates. In addition, tax revenues and discretionary spending are assumed to increase at the same rate as GDP after 2008, which keeps them at a constant share of GDP in the long run.

CBO's long-term numbers were finalized before the trustees released their 1998 projections for Social Security and Medicare. However, if CBO had used those new projections, its estimates would not have changed appreciably. The trustees' 1998 projections for Social Security are only slightly more optimistic than last year's, and CBO's forecasts had anticipated the decline in the trustee's projections of outlays for Medicare.

Because CBO's analysis focuses on macroeconomic relationships, its long-term projections use the budget categories defined by the national income and product accounts (NIPAs), not the categories of the unified budget, which CBO focuses on in its annual reports.

Although any long-term projection is inherently uncertain, CBO's base scenario indicates that in the absence of policies to reduce spending or increase taxes, the deficit could rise to about 5 percent of GDP in 2030 and to more than 20 percent in 2050. In that year, the federal debt would reach about 200 percent of GDP—an unprecedented level for the United States (see Summary Table 2).

One way to assess the magnitude of the long-term budgetary problem is to estimate the fiscal gap—the size of the tax increase or spending cut that would be needed to keep the ratio of debt to GDP at or below today's level through 2070. CBO estimates that a permanent tax increase or spending cut of 1.6 percent of GDP would put the budget on that sustainable path.

The rosier budget outlook for the next decade has substantially improved the long-term outlook. In March 1997, CBO projected that the NIPA deficit would reach 2.3 percent of GDP in 2007. Such an increase in the deficit would have pushed the federal debt above 100 percent of GDP during the 2020s (see Summary Figure 1). Since then, unexpectedly strong growth in the economy, a surge in tax collections, and passage of the Balance Budget and Taxpayer Relief Acts have produced a sharp turnaround in the budget outlook. CBO now projects a surplus of about 1 percent of GDP in 2008. As a result, the federal debt will not exceed GDP until the 2040s, two decades later than in the March 1997 projections. The major factor behind the improved long-term outlook is the projection of budget surpluses during the next 10 years, which reduce federal debt as a share of GDP by half before the baby boomers begin to retire. Another factor is that the Balanced Budget Act of 1997 lowered projected Medicare outlays in 2007 by slightly more than 10 percent. Because Medicare is one of the fast-growing programs, cutting its size would significantly improve the long-run budget outlook.

The long-term budget outlook would be more pessimistic if, instead of running surpluses, the Congress kept the budget balanced over the next decade (by increasing spending or cutting taxes). In a "no surplus" scenario, federal debt would exceed GDP in the 2030s rather than in the 2040s, and the size of the fiscal gap would increase from 1.6 percent of GDP to 2.3 percent.

Those scenarios represent CBO's current view of the long run, but the uncertainty about any long-term

Summary Table 2.
Projections of Federal Receipts and Expenditures Under CBO's Base Scenario, 1997-2050
(As a percentage of GDP)

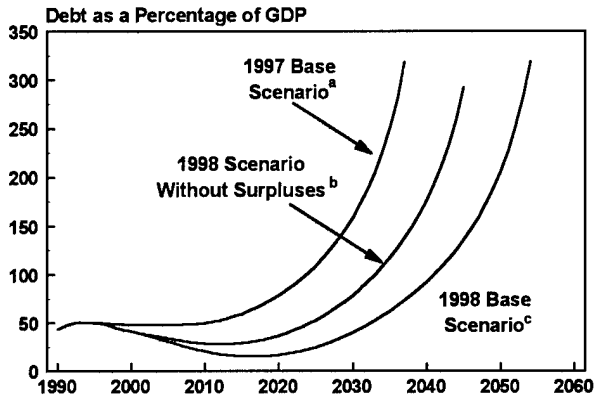
	1997	2000	2010	2020	2030	2040	2050
NIPA Receipts	21	21	20	20	20	20	20
NIPA Expenditures							
Federal consumption expenditures	6	5	4	4	4	4	4
Federal transfers, grants, and subsidies							
Social Security	4	4	5	6	6	7	7
Medicare	3	3	4	5	6	7	7
Medicaid	1	1	2	2	2	3	3
Other	5	5	4	4	4	4	4
Net interest	3	2	1	1	2	6	19
Total	22	21	20	22	25	30	43
NIPA Deficit (-) or Surplus	0	0	1	-1	-5	-10	-23
Debt Held by the Public	47	42	21	17	40	93	206
Memorandum:							
Gross Domestic Product (Trillions of dollars)	8.1	9.2	14.6	22.4	33.1	48.5	67.7

SOURCE: Congressional Budget Office.

NOTES: The base scenario assumes that rising deficits affect interest rates and economic growth.

NIPA = national income and product accounts.

Summary Figure 1.
Long-Term Projections of Federal Debt



SOURCE: Congressional Budget Office.

a. The long-term projection that CBO made in March 1997.

b. A projection that assumes that the budget surpluses are reduced to zero (that is, the budget is balanced) from 2001 to 2008.

c. CBO's current long-term projection.

projection is considerable. Moreover, because the economy and budget now seem to be going through an extraordinarily fortunate period, any long-term projection based on recent experience must be regarded with more than the usual amount of caution.

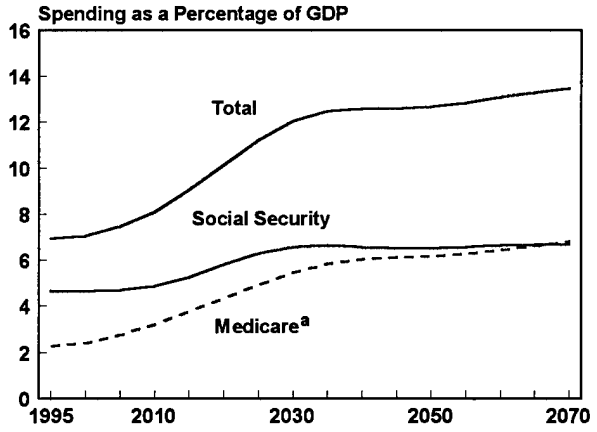
CBO's projections may well be optimistic. For example, CBO follows Medicare's trustees and assumes a slowdown in the growth of health costs per enrollee between 2008 and 2020; if those costs did not slow, CBO's long-term projections would be considerably bleaker.

Other assumptions may make the long-term projections too pessimistic. CBO's current base scenario assumes that discretionary spending will grow as fast as the economy after 2008 (reflecting both real growth and inflation) rather than remain constant in real dollars. By contrast, if those outlays were held constant in real terms, the long-term budget picture would be much brighter. Discretionary spending would fall from 7 percent of GDP in 1997 to less than 3 percent (the lowest level since before World War II) in 2050. But a decrease of that magnitude could be difficult to achieve. Although discretionary spending as a share of GDP has declined significantly since the 1960s, much of that decline has stemmed from cutbacks in defense (nondefense discretionary spending has been a fairly stable share of GDP). A decision to replace aging defense equipment could forestall further reductions.

Slowing the Growth of Spending on Social Security and Medicare

In 1997, federal spending for Social Security and Medicare exceeded $500 billion, or about 7 percent of GDP. By 2030, when most baby boomers will have retired, those two programs will consume 12 percent of GDP (see Summary Figure 2). Nearly all of the increase in Social Security's share of GDP between now and 2030, and two-thirds of the increase in Medicare's share, will occur after 2010, as retired baby boomers become eligible for those programs. Those projections are based on the intermediate assumptions from the programs' trustees in their 1997 annual reports; CBO modified the projections for Medicare to reflect the changes enacted in the Balanced Budget Act of 1997.

Summary Figure 2.
Projected Growth in Spending for Social Security and Medicare, Calendar Years 1995-2070



SOURCE: Congressional Budget Office based on intermediate assumptions from the 1997 reports of the boards of trustees of the Social Security and Medicare trust funds.

NOTES: Data are plotted at five-year intervals.

a. Medicare spending is shown net of premium receipts.

Social Security

Three approaches illustrate the trade-offs that the Congress would face in trying to reduce the growth in spending for the Social Security program. First, the initial benefits of future Social Security beneficiaries could be reduced below the levels current law would provide. Announcing across-the-board cuts in initial benefits long before they took effect could produce substantial savings while still preserving the basic benefit structure of the Social Security system and giving people time to adjust to the reduced benefits. In principle, workers could offset the cut in their future Social Security benefits by either working longer or saving more. However, some people would not be able to make the necessary adjustments and could therefore have lower incomes when they stopped working.

Second, the age at which a worker would become eligible for full retirement benefits—the "normal retirement age"—could be raised to reflect increases in life expectancy. Under legislation enacted in 1983, the normal retirement age is already scheduled to rise from 65 to 67 by 2022. Some proposals would speed up the

Summary Table 3.
Effects of Illustrative Options for Reducing Growth in Spending for Social Security

Option	2010	2030	2050	2070
Spending as a Percentage of GDP				
Continue Current Law	4.9	6.6	6.5	6.7
Phase in a 16 Percent Reduction in Initial Benefits[a]	4.8	5.9	5.5	5.6
Raise the Normal Retirement Age[b]	4.8	6.1	5.6	5.5
CPI Minus One[c]	4.5	5.9	5.7	5.9
Savings as a Percentage of Projected Spending Under Current Law				
Phase in a 16 Percent Reduction in Initial Benefits[a]	2	10	15	16
Raise the Normal Retirement Age[b]	1	8	14	18
CPI Minus One[c]	8	11	12	12

SOURCE: Congressional Budget Office based on estimates provided by the Social Security Administration, Office of the Actuary, March 3, 1998, using the intermediate assumptions in the 1997 report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds.

NOTE: CPI = consumer price index.

a. Starting in 1998 and ending in 2032, the benefits of each successive cohort of workers becoming eligible for Social Security disability or retired-worker benefits would be reduced by 0.5 percent a year. Thus, workers becoming eligible in 2032 or later would receive about 84 percent of the benefits that they would have received under current law.

b. The normal retirement age of workers who turn 62 in 2011 would be 67; that age would increase by two months a year until it reached 70 in 2029 and then would increase by one month every other year for the remainder of the projection period.

c. Beginning in December 1998, the cost-of-living adjustment would be set to equal the increase in the consumer price index minus 1 percentage point. As under current law, no adjustment would be made in years in which there was no increase. Any reductions would be accumulated until a net increase was achieved in a future year.

transition to age 67 and then further increase the age to keep up with future gains in life expectancy. Raising the age at which a worker would become eligible for full benefits (without changing the earliest eligibility age) is, for most purposes, equivalent to cutting initial benefits, with similar advantages and disadvantages.

Third, future annual cost-of-living adjustments (COLAs) could be reduced. Current law indexes the basic Social Security benefit by the increase in the consumer price index (CPI), beginning when a worker becomes eligible for benefits. Many analysts feel that the CPI overstates increases in the cost of living, although the magnitude of the overstatement and what should be done about it are subject to much debate. Moreover, the Bureau of Labor Statistics recently made changes in how the CPI is calculated that address several of the analysts' concerns. Unlike across-the-board reductions in benefits and increases in the normal retirement age, substantial changes in COLAs would eventually reduce benefits the most for the oldest beneficiaries and those who initially became eligible for Social Security on the basis of disability.

Each of these approaches could be used to achieve considerable savings, with the amount depending on the specific changes made. Estimates provided by the Social Security Administration's Office of the Actuary illustrate the magnitude of the changes that would result from several specific options (see Summary Table 3). Cutting the benefits of each successive cohort of workers who became eligible for Social Security disability or retired-worker benefits by 0.5 percent per year, starting in 1998 and ending in 2032, would ultimately reduce spending by about 16 percent. But the full savings would take a long time to achieve. By 2030, spending would be about 10 percent below the projected amount for that year under current law.

Speeding up the increase in the normal retirement age to 67 and then linking it to increases in longevity would achieve similar savings. Under the specific option analyzed here, the age at which retirees would receive full benefits would rise to 70 in 2029 (for workers born in 1967) and then go up by one month every other year. This option would reduce spending by less than 10 percent in 2030.

Savings could accrue more rapidly by cutting COLAs, because doing so would affect all beneficiaries, not just new ones. Reducing the COLA by 1 percentage point each year, starting with the next COLA, would also reduce spending in 2030 by about 10 percent.

The Advisory Council on Social Security considered these and other approaches in its recent report. The members of the council were unable to reach a consensus about how to improve the financial status of Social Security and, instead, presented three alternative plans. Much of the public attention directed toward those plans has focused on aspects that involve either requiring workers to invest a certain percentage of their earnings in retirement accounts or investing a portion of the balance in the Social Security trust funds in equities rather than Treasury securities. A number of other such "privatization" proposals have been made in recent years.

Ultimately, the success of privatization proposals in preparing the economy for the retirement of the baby boomers rests on the extent to which the proposals would increase national saving. Some of the specific provisions in one or more of the plans would do that by slowing the growth in spending for Social Security—for example, through reductions in initial benefits or increases in the normal retirement age. Other provisions could boost national saving if they required workers to save more than would otherwise be the case or if they raised taxes without increasing expenditures.

Medicare

Medicare has been highly successful in achieving its primary objective of ensuring access to mainstream medical care for the aged and the disabled, but the program's costs have placed an increasing burden on the economy. In 1997, Medicare's spending net of premiums paid by enrollees was 2.3 percent of GDP. If no changes are made in current law, net spending is expected to reach 3.2 percent of GDP by 2010 and 6.8 percent by 2070. Underlying those projections is an assumption (consistent with the trustees' report) that growth in Medicare's spending per enrollee will gradually slow between 2008 and 2020 to be more in line with growth in the average wage. That assumption is optimistic, though, since policies designed to achieve that result are not yet in place.

Three fundamental approaches exist for slowing the growth in federal spending for Medicare. The Congress could reduce the number of people eligible for benefits, collect more of the costs from beneficiaries, or restructure Medicare to reduce total costs per beneficiary. The estimated effects on net federal spending for Medicare under illustrative options for each approach are shown in Summary Table 4.

Reduce Eligibility. One way to reduce the number of people eligible for benefits would be to increase the age of eligibility from 65 to 70, using the schedule presented above for increasing the normal retirement age for Social Security benefits. That approach would ultimately reduce federal spending for Medicare by about 11 percent compared with current law. Net spending would continue to grow relative to GDP but at a slower rate, reaching 6.1 percent of GDP by 2070. Increasing the age of eligibility, however, would do little to reduce total health care costs, and it would lengthen the period during which people who opted for early retirement under Social Security might have difficulty obtaining private insurance coverage.

Raise Premiums. The second approach would raise the premiums collected from enrollees to cover 50 percent of Medicare's costs for Supplementary Medical Insurance (Part B). This option would reduce net Medicare spending by about 15 percent a year, but it would simply shift costs to beneficiaries rather than constrain the growth in total health care costs. Without any changes to improve the efficiency of the Medicare

Summary Table 4.
Effects of Illustrative Options for Reducing Growth in Net Spending for Medicare

Option	2010	2030	2050	2070
Net Federal Spending as a Percentage of GDP				
Continue Current Law	3.2	5.5	6.2	6.8
Raise the Age of Eligibility to 70[a]	3.1	4.9	5.5	6.1
Collect 50 Percent of SMI Costs from Enrollees[b]	2.7	4.6	5.3	5.8
Restructure the Medicare Market and Limit Growth in Medicare's Defined Contribution to 4 Percent a Year[c]	2.6	3.9	4.0	4.3
Savings as a Percentage of Projected Spending Under Current Law				
Raise the Age of Eligibility to 70[a]	2	11	11	11
Collect 50 Percent of SMI Costs from Enrollees[b]	15	15	14	14
Restructure the Medicare Market and Limit Growth in Medicare's Defined Contribution to 4 Percent a Year[c]	18	29	35	37

SOURCE: Congressional Budget Office.

NOTE: SMI = Supplementary Medical Insurance.

a. The age of eligibility for Medicare would be increased to 70 by 2032.

b. Premiums for Medicare enrollees would be increased to cover 50 percent of SMI costs by 2000.

c. The growth of Medicare's per-enrollee contribution would be indexed to the average growth rate of GDP per capita (about 4 percent) after 2000.

program, premiums would consume an ever larger share of enrollees' income, rising from about 3 percent currently to more than 12 percent by 2070.

Restructure Medicare. A third approach would be to restructure the program, giving patients and providers greater incentives to make cost-effective choices. One way to do that would be to set up a system of competing health care plans and limit growth in the amount Medicare contributed toward the premiums charged by the various plans. In such a restructured system, Medicare's fee-for-service sector could be one of the plans, competing for enrollees on the same basis as all other plans. Because enrollees would be responsible for any premium amounts in excess of Medicare's contribution, they would have financial incentives to be prudent purchasers of health plans. Also, because plans would be at risk for any costs above their predetermined premium collections, they would have financial incentives to operate efficiently. Control of federal Medicare spending would be assured because the financial risks from higher growth in health care costs would be shifted to health plans and enrollees. Although the federal subsidy per enrollee would be smaller than it would be under current law, competition among plans and providers could spur efficiency and increase health benefits per dollar spent.

For example, Medicare's defined contribution could be set to equal net spending per enrollee in 2000 and indexed to the average growth rate of GDP per capita thereafter. Under this option, federal savings would be 29 percent of currently projected spending by 2030 and 37 percent by 2070. However, the effects of this option on total costs for a basic benefit package—and therefore on the costs that beneficiaries would bear—are uncertain. If the incentives generated only enough cost-conscious behavior to match the slowdown in the growth of health care costs per enrollee assumed in the base scenario, enrollees' premiums would steadily increase, reaching 23 percent of their average income by 2070. If, instead, growth in costs per enrollee slowed to match the annual growth in the federal defined contribution, premiums would increase little relative to the average income of enrollees.

In practice, the effects of this restructuring would probably differ among various enrollee groups. Some basic plans would keep their costs low enough to avoid having to charge supplemental premiums, but access to providers and quality of services available in those plans might limit their appeal primarily to low-income enrollees. Higher-income enrollees might gravitate instead to plans that charged supplemental premiums and provided better access and quality.

Conclusion

As a result of dramatic improvements in the past year, the current outlook for the budget is quite bright through 2008. However, CBO still projects that the retirement of the baby-boom generation, together with expected growth in per-enrollee costs for Medicare and Medicaid, will eventually lead to rapidly growing deficits if current policies are not changed. A major issue facing the Congress and the President is how best to begin preparing for the budgetary pressures that this demographic phenomenon will generate.

Chapter One

Introduction

The budget outlook has improved significantly, but not enough to prevent an eventual rise in the ratio of federal debt to gross domestic product (GDP). Under current laws and policies, the Congressional Budget Office (CBO) now projects annual surpluses through 2008. If those projections are realized, the ratio of publicly held federal debt to GDP will fall from its current level of about 47 percent to 24 percent by 2008 and to 15 percent by 2017. That prospect is a considerable improvement over CBO's 1997 projection, in which the debt-to-GDP ratio reached 64 percent by 2017. About one-quarter of the improvement arises from the combined effects of last year's budget reconciliation package—the Balanced Budget and Taxpayer Relief Acts of 1997. The rest stems from a brighter economic outlook, more revenue in relation to income, and other factors.

Without further legislative action, however, fundamental long-term budgetary problems will remain. Eventually, the federal debt and deficit will start to rise as a result of pressures on the budget from Social Security, Medicare, Medicaid, and other programs that serve the elderly. Those pressures will stem from an aging population, slower growth in the labor force, and rising per-enrollee costs of health care. In 2008, the first members of the large baby-boom generation will become eligible for Social Security, and no policy in force promises to check the growth of open-ended entitlements for health care.

A direct solution to the budgetary problem will probably have to include some combination of policies that raise taxes or reduce the growth of outlays for Social Security and health care. Because those entitlement programs now make up almost half of all noninterest federal spending, controlling the deficit will be difficult without curbing their growth.

Budgetary Pressures

An older population and higher per-enrollee costs of medical care spell trouble for the federal budget. The problem arises largely because, on average, people in their working years pay more in taxes than they receive in direct benefits. Once retired, however, they pay little in taxes and receive much in benefits. The average person between the ages of 20 and 64 pays about $8,100 in federal taxes and receives about $1,500 in direct federal benefits. By contrast, the average person between the ages of 65 and 79 pays about $4,800 in taxes and receives about $12,000 in benefits, mostly for Social Security and health care. Moreover, the difference between benefits and taxes increases with age—for instance, the average person age 80 or older receives about $16,500 more in benefits than he or she pays in taxes. Although there is much individual variation, people on average reach their peak earning and taxpaying years in their mid-40s and start to receive more in benefits than they pay in taxes in their mid-60s.

As time progresses, members of the baby-boom generation—people born between 1946 and 1964—will start to reach and pass their mid-60s. At the same time, people from the smaller baby-bust generation that followed will take their places as peak earners. That demographic transformation will lead to relatively many receivers of net benefits and relatively few payers of net taxes, squeezing the budget from both the outlay and revenue sides.

Another important source of budgetary pressure stems from the rising per-enrollee costs of Medicare and Medicaid, the major federal programs for health care. Those programs differ from Social Security in a crucial way—people's benefits for Social Security are tied to their past wages, but their entitlements for Medicare and Medicaid are open-ended. Anyone who qualifies is served, and total cost is substantially driven by the persistent growth in per-enrollee spending on health care. Thus, mounting health costs directly create budgetary pressures; an aging population only makes the problems worse.

Left unchecked, such budgetary problems presage economic problems because deficits crowd out private investment, slowing the growth of capital and output. High deficits will retard long-term growth beyond the slowing of the growth of labor and capital that will occur in any case as people retire and draw down their savings. Persistent deficits will lead to less capital and lower output and, hence, to less revenue and even higher deficits. Those higher deficits will lead in turn to higher interest rates, raising the cost of paying interest on the federal debt and adding further to the deficit. Thus, the interaction between the budget and the economy can start a spiral of ever-higher deficits and ever-slower growth.

Such a spiral is likely if the budgetary problems posed by an aging population and growing medical costs are not resolved. That conclusion comes from an economic model that CBO developed to study long-run budgetary issues, a model that allows for the chief feedbacks between the budget and the economy. The model indicates that under a wide range of assumptions, inaction on underlying budgetary problems will eventually lead to rising deficits and falling living standards.

The consequences of inaction appear less immediately ominous than those suggested by analyses that

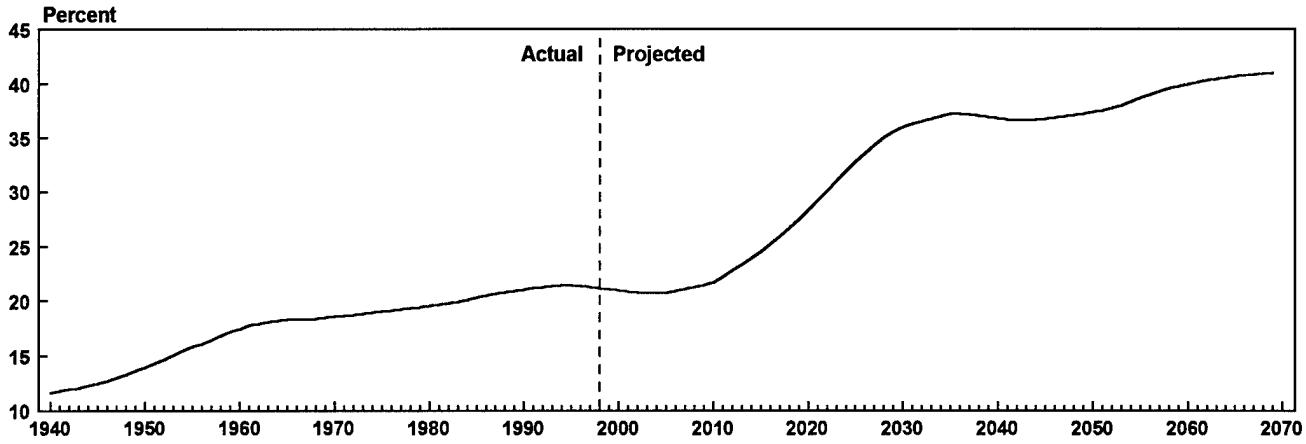
Table 1-1.
Population of the United States by Age, Calendar Years 1950-2070

Age Group	1950	1970	1990	2000	2010	2030	2050	2070
				In Millions of People				
Less Than 20 Years Old	53	81	75	81	81	83	84	85
20 to 64 Years Old	92	113	153	168	186	192	203	206
65 or Older	13	21	32	35	40	68	75	84
Total	158	215	260	285	307	344	362	376
				As a Percentage of the Total Population				
LessThan 20 Years Old	34	38	29	29	27	24	23	23
20 to 64 Years Old	58	53	59	59	61	56	56	55
65 or Older	8	10	12	12	13	20	21	22
Total	100	100	100	100	100	100	100	100
				As a Percentage of the Population Ages 20 to 64				
Less Than 20 Years Old	58	71	49	48	44	43	42	42
20 to 64 Years Old	100	100	100	100	100	100	100	100
65 or Older	14	18	21	21	21	36	37	41

SOURCE: Congressional Budget Office based on data from the Social Security Administration.

NOTE: Population as of July 1.

Figure 1-1.
The 65-Plus Dependency Ratio



SOURCE: Congressional Budget Office using data from the Social Security Administration.

NOTE: The 65-plus dependency ratio is the population age 65 or older as a percentage of the population ages 20 to 64.

predated the recent improvement in the economic and budget outlook.[1] With extraordinary luck, the budget might weather the storms of rapid aging and mounting health care costs. Most likely, however, the recent good news simply postpones an inevitable rise in the deficit.

Moreover, optimistic long-term budget projections made now must be regarded with more than the usual amount of caution, because the economy and the budget seem currently to be going through an unusually fortunate period. Although CBO tries to allow for the temporary effects of the business cycle, it cannot perfectly achieve that goal and, thus, its long-term projections may not sufficiently discount current good fortune.

Of course, a rise in the deficit and its economic consequences are not foreordained. Models do not predict what will happen, only what would happen given particular policies and assumptions. The eventual result will depend on a host of uncertain economic, budgetary, and demographic events over many years. More important, the Congress can choose a set of policies that will avoid a high-deficit/slow-growth spiral.

The Population Is Aging

As the population grays, the young and middle-aged will have to support a growing number of elderly people. The Social Security Administration's (SSA's) intermediate projection assumes that between now and 2030, the retirement-age population (age 65 or older) will double while the working-age population (ages 20 to 64) will grow by only about 15 percent (see Table 1-1).

The population has been growing older for some time, as shown by the 65-plus dependency ratio—the population age 65 or older as a percentage of the population ages 20 to 64. The ratio has risen from about 12 percent in 1940 to 21 percent today, increasing by three-quarters in less than 60 years (see Figure 1-1).

But after a lull, the country will age much faster than that. SSA projects that the 65-plus dependency ratio will dip to 20 percent in 2007, then climb to about 36 percent by 2030.[2] That is, the ratio will increase by three-quarters again in less than 30 years and remain permanently high (a demographic transition that will

1. Congressional Budget Office, *Long-Term Budgetary Pressures and Policy Options* (March 1997); *Budget of the United States Government, Fiscal Year 1999: Analytical Perspectives*, pp. 23-38; General Accounting Office, *Budget Policy: Prompt Action Necessary to Avert Long-Term Damage to the Economy*, GAO/OCG-92-2 (June 1992), and *The Deficit and the Economy: An Update of Long-Term Simulations*, GAO/AIMD/OCE-95-119 (April 1995).

2. Social Security Administration, *The 1997 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds* (1997). The demographic assumptions in SSA's 1997 report are virtually identical to those in its 1998 report, which appeared after CBO had prepared its long-term budget projections.

also occur in other industrial countries, as discussed in Box 1-1). Moreover, SSA projects that from now until 2070, the number of people who are very old—age 85 or older—will nearly triple as a proportion of the working-age population.

Past and prospective increases in the 65-plus dependency ratio coincide in part with past and prospective decreases in the youth dependency ratio—the population under the age of 20 as a percentage of the population ages 20 to 64. The youth dependency ratio has

Box 1-1.
How Will Aging Populations Affect Government Budgets in Other Industrial Countries?

The rest of the developed world is expected to age at least as markedly as the United States. In the seven industrial nations with the largest economies, the population age 65 or older is projected to climb as a ratio of the population ages 20 to 64 (see the table below). By 2030, that projected ratio rises by more than 25 percentage points in Japan, Germany, and Italy.[1] Only in the United States and in the United Kingdom, a nation already relatively old, does the ratio rise by much less than 20 percentage points. After 2030, the projected ratio edges up slightly in most nations but continues to climb by more than 10 percentage points in Japan and Italy, rising in those countries to more than 60 percent.

Aging will afflict some national budgets more than others, depending in each country on the initial value of public debt, the nature of demographic change, and the policy toward the elderly. In particular, the results depend on the implicit liabilities that governments have incurred through public pension systems and policies for health care. According to long-term estimates published two years ago, the ratio of net public debt to output in Japan and Germany was likely to rise especially steeply —by more than 50 percentage points in 20 years. By contrast, less pronounced aging and a better-funded public pension system suggested a more favorable budget outcome in Canada, whose net public debt was expected to fall as a share of output.

If they were made today, those projections of net public debt probably would differ as a result of current economic and budgetary events. In particular, France, Germany, and Italy recently went through a round of deficit cutting to meet the requirement of the European Monetary Union that member states maintain deficit-to-output ratios of 3 percent or less. In doing so, however, most countries reportedly failed to fully address the long-term issues posed by welfare systems and public pensions. Thus, most other large industrial countries face many of the same hard problems and difficult choices as the United States.

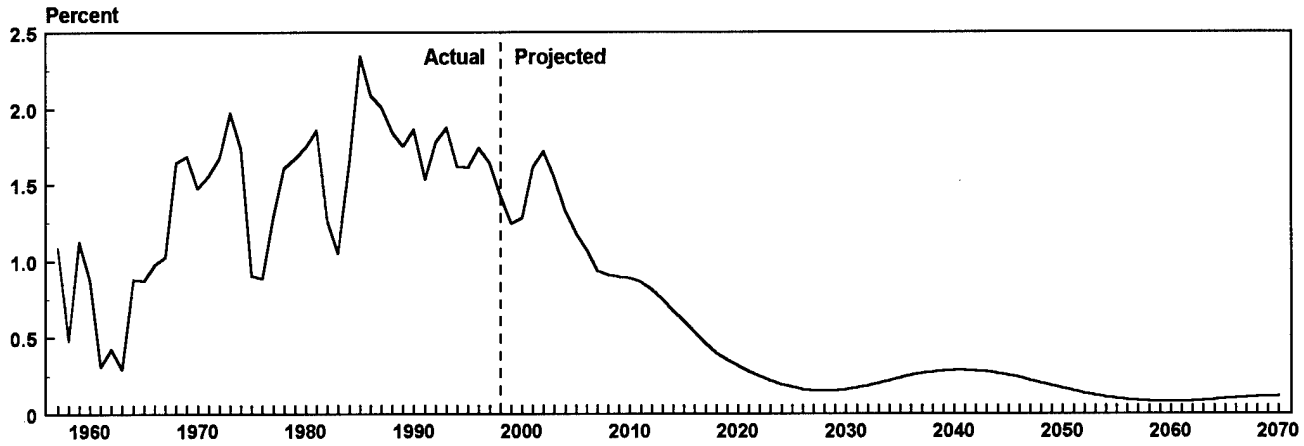
1. See Deborah Roseveare and others, *Ageing Populations, Pension Systems, and Government Budgets: Simulations for 20 OECD Countries*, OECD Economics Department Working Paper No. 168 (Paris: Organization for Economic Cooperation and Development, 1996).

Ratio of People Age 65 or Older to People Ages 20 to 64 (In percent)

	1990	2010	2030	2050
Canada	18.6	22.9	43.6	46.5
France	23.4	27.2	43.1	48.4
Germany	23.6	32.9	53.8	57.5
Italy	24.3	33.8	52.4	66.7
Japan	19.3	35.8	48.7	60.1
United Kingdom	26.7	28.6	42.8	45.8
United States	20.9	21.4	35.5	37.2

SOURCE: Congressional Budget Office based on data from the Social Security Administration and from Eduard Bos, *World Population Projections, 1994-95 Edition* (Washington, D.C.: World Bank, 1994).

Figure 1-2.
Growth in Work-Hours



SOURCE: Congressional Budget Office based on data from the Bureau of Labor Statistics and the Social Security Administration.

NOTE: Annual growth in work-hours in the nonfarm, nonhousing business sector over the previous 10 years.

declined since 1970, and SSA's projected ratio continues to decline through 2050 to a roughly stable value of 42 percent (see Table 1-1). To some extent, that decline may ease part of the overall pressure that the rising 65-plus dependency ratio imposes on the budget. For instance, lower spending for education may counter some of the higher spending for Social Security. But most of the easing will occur at the state and local level. Moreover, combined government spending—federal, state, and local—is much higher on programs for the average old person than for the average young person. Thus, a lower youth dependency ratio can offset only a small part of the total burden that the surge in the 65-plus dependency ratio imposes on the budget (see Box 1-2 on page 6).

Three main reasons underlie that surge: people will live longer, women will have fewer children in their lifetime, and—most significant—the members of the large baby-boom generation will retire.

People Will Live Longer. Increased life spans will allow more people to reach age 65 and will allow those who do to live for a longer time. Since 1970, average remaining life expectancy at age 65 has risen by at least two years—from 13 years to 16 years for men, and from 17 years to 19 years for women. According to the Social Security Administration, by 2050 the average remaining life expectancy at age 65 will have risen further, reaching nearly 18 years for men and over 21 years for women.[3]

Women Will Have Fewer Children. SSA projects that the number of children that the average woman eventually bears in her lifetime will fall slightly, from 2.0 children today to 1.9 children by 2020 and thereafter.[4] By itself, that average lifetime fertility rate is too low to keep the total population from eventually falling without an influx of net immigration.

Because people enter the workforce at about age 20, the decline in the lifetime fertility rate foretells small cohorts of workers in future decades. The growth of total nonfarm work-hours will slow to a crawl between 2010 and 2020, nearly reaching a standstill from 2020 to 2030 (see Figure 1-2). Total nonfarm hours rose at an average annual rate of 2 percent from 1960 to 1989 but is expected to average only 1 percent from 1989 to 2010 and only 0.3 percent from 2010 to 2020. Part of that decline will stem from slower growth in women's work-hours, as the percentage of women in the workforce approaches that of men. But most of the decline in the growth of total hours will come from slower growth in the number of people of working age.

3. Ibid., p. 63.

4. Ibid.

Box 1-2.
Could a Reduction in Children's Share of the Population Substantially Ease the Pressure on Government Budgets?

The impending retirement of the baby-boom generation, coupled with increased longevity, will boost federal spending on programs for the elderly. But as the share of Americans over the age of 65 climbs, some projections also show that the share of Americans under age 20 will fall. If that happens, could a shrinking proportion of children offset some of the increased fiscal burden associated with the surging elderly population?

The Congressional Budget Office's long-term budget outlook reflects the federally financed benefits for both children and the elderly. But focusing exclusively on federal programs does not fully capture the effects that the demographic transition will have on the public sector. Does allowing for potential savings to state and local governments from a reduced demand for the funding of children's services alleviate the anticipated burden on public resources?

The projected costs to the federal government caused by the expected increase in the elderly share of the total population are tremendous. They are likely to swamp any reductions in costs, relatively speaking, for the federal government that might result from a smaller share of children and a decrease in the demand on federal funds for children's services. Moreover, because government programs for children—education being by far the largest—are disproportionately funded by state and local governments, any reduction in the overall burden on taxpayers would have to come from potential savings at the state and local level.

Exploring patterns of per capita expenditures of federal, state, and local governments on children and the elderly sheds some light on the total potential fiscal impact of rising shares of elderly and falling shares of children. In fiscal year 1995, the federal government spent roughly $14,000 per person on programs for the elderly, compared with only about $2,000 per child. In contrast, state and local governments spent considerably more per child than the federal government and considerably less per capita on the elderly. State and local spending per person age 65 or older was roughly $700 in 1995 compared with over $4,000 per child. The federal government's largest expenditures for the elderly were for Social Security and Medicare. The lion's share of spending on children in state and local budgets was devoted to elementary and secondary education.[1]

The federal government spent seven times as much on the elderly as it did on young people, in per capita terms. The possible relative decline in the population of children would not make up for the costs associated with the projected surge in the elderly population. In contrast, state and local governments might well benefit from a relative decline in the number of children. But any reduction in the budgetary pressure on state and local governments is likely to be small compared with the increased pressure the federal government will face.

The potential savings for state and local governments resulting from a relatively smaller number of children are not automatic consequences of changing demographics. In the past, increases in per-pupil education expenditures have occurred during times of rising *and* falling numbers of school-age children. Likewise, state and local governments might face new budgetary pressures, such as repairs to school buildings, that could more than offset any savings from a shrinking proportion of children. In addition, expenditures for state and local governments would also increase with the size of the elderly population. State and local spending on medical care and related services for the elderly (largely funded by Medicaid) could skyrocket with growth in demand for long-term care services. Such increased costs could offset any possible reduction a decreasing proportion of children might bring.

Furthermore, outcomes of future decisions—such as how much to spend on children and the elderly, how many children are born, and how many immigrants to admit into the United States—are highly uncertain. Those public and private choices will be influenced by individuals' future income; fiscal conditions facing federal, state, and local legislators; and other factors.

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1. These estimates are preliminary and are sensitive to the techniques and assumptions used to determine which programs to include in the calculations and how expenditures for certain programs that serve multiple age groups should be allocated.

Baby Boomers Will Retire. The oldest boomers will be eligible for reduced Social Security benefits at age 62 in 2008, for Medicare at age 65 in 2011, and for full Social Security benefits at age 66 in 2012. Massive numbers of retirements will then continue for about two decades, as successive cohorts of baby boomers reach the end of their working years.

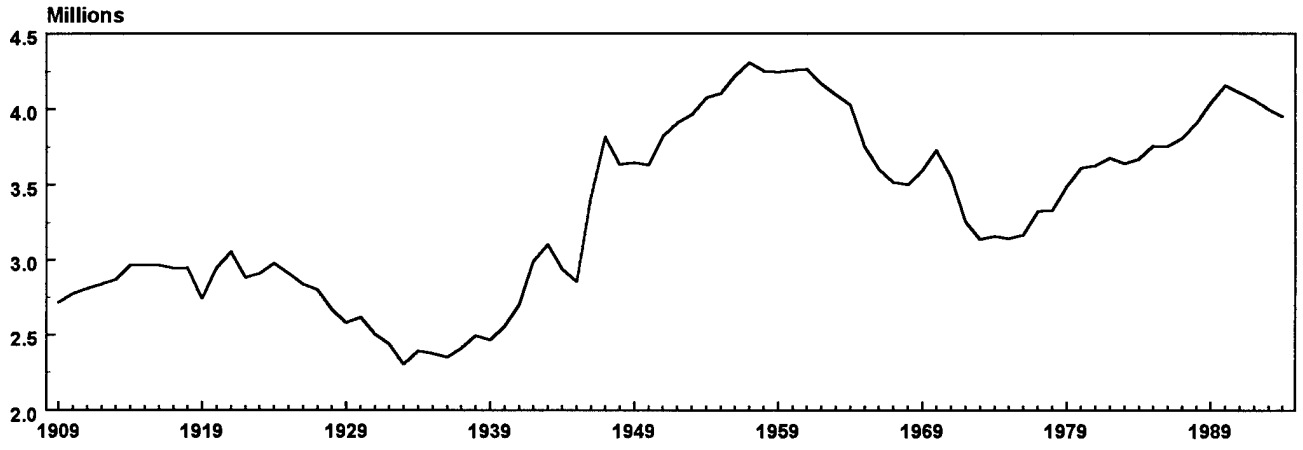
That transition is the inevitable result of the pattern of births since World War II (see Figure 1-3). After a wartime dip, annual births soared by nearly 1 million between 1945 and 1947—from 2.9 million births in 1945 to 3.8 million in 1947. After another dip in 1949 and 1950, births began to mount in 1951, reaching 4.3 million a year in 1958 and not dropping below 4 million until 1965. The baby boom was followed by a baby bust, with the trend in births falling through 1973, then rising again but never quite regaining the 1961 level of 4.3 million.

An earlier baby bust that occurred between the two world wars is now easing the current pressure on federal programs for health and retirement. Until 1943, births had not regained their 1921 peak of 3.1 million, having fallen as low as 2.3 million births in 1933. The oldest members of the interwar baby-bust generation reached age 62 about a decade ago, and the youngest will do so over the next decade. As a result, the next 10 years will mark the end of a demographic respite for the Social Security and health care systems. After that, relatively large cohorts will pass from being net taxpayers to being net benefit receivers, while relatively small cohorts will be in or near their peak taxpaying years.

Population Projections Differ Quantitatively But Agree Qualitatively

Although population projections are uncertain and differ among forecasters, all projections agree that the 65-plus dependency ratio will rise substantially over the next 30 years (see Table 1-2, which compares projections of the Social Security Administration, the Bureau of the Census, and private forecasters). The forecasters' intermediate paths or median projections suggest that the ratio will increase from about 21 percent in 2000 to about 36 percent in 2030. Similarly, all forecasters expect a significant rise in the proportion of the very old, as evidenced by the 85-plus dependency ratio—the number of people age 85 or older as a percentage of the population ages 20 to 64. The private demographers, Lee and Tuljapurkar, expect higher dependency ratios than the SSA after 2030. But the differences among forecasts are not particularly large, especially in light of the growth of the dependency ratios and the uncertainty of the projections themselves.

Figure 1-3.
Births in the United States, 1909-1994



SOURCE: Congressional Budget Office based on data from the National Center for Health Statistics and from Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970*, Part 1 (1975), p. 49.

Table 1-2.
Comparision of Projected Dependency Ratios

	2000	2010	2020	2030	2040	2050	2060	2070
65-Plus Dependency Ratio (Percent)[a]								
Social Security Administration								
High cost[b]	21.2	22.2	29.0	38.9	42.6	45.6	52.0	56.9
Intermediate cost	21.0	21.4	27.5	35.5	36.8	37.0	39.8	41.0
Low cost[b]	20.9	20.6	25.8	32.3	31.9	30.6	31.2	30.7
Bureau of the Census								
High growth[b]	21.6	22.7	29.8	38.3	39.8	39.9	n.a.	n.a.
Intermediate growth	21.5	22.3	29.0	37.6	38.4	37.9	n.a.	n.a.
Low growth[b]	21.5	21.8	28.0	36.3	36.3	35.2	n.a.	n.a.
Lee and Tuljapurkar[c]								
Upper two-thirds bound[d]	21.0	21.4	27.6	37.5	41.6	46.0	53.5	59.0
Median	20.9	21.1	27.0	35.6	37.8	39.0	42.3	44.4
Lower two-thirds bound[d]	20.8	20.7	26.3	33.7	34.2	33.3	33.8	34.1
85-Plus Dependency Ratio (Percent)[e]								
Social Security Administration								
High cost[b]	3.1	3.7	4.1	5.5	8.8	11.8	12.6	14.8
Intermediate cost	3.0	3.4	3.5	4.5	6.6	8.1	7.9	8.6
Low cost[b]	3.0	3.1	2.9	3.5	4.9	5.5	4.8	5.0
Bureau of the Census								
High growth[b]	2.7	3.6	4.3	5.9	9.0	12.0	n.a.	n.a.
Intermediate growth	2.6	3.2	3.5	4.6	6.9	8.7	n.a.	n.a.
Low growth[b]	2.6	2.9	2.9	3.6	5.1	6.1	n.a.	n.a.
Lee and Tuljapurkar[c]								
Upper two-thirds bound[d]	2.6	3.2	3.5	4.7	7.6	10.6	11.8	13.8
Median	2.6	3.0	3.3	4.3	6.7	8.9	9.1	10.1
Lower two-thirds bound[d]	2.5	2.9	3.1	3.9	5.8	7.4	7.1	7.4

SOURCE: Congressional Budget Office based on population projections from the Social Security Administration, the Bureau of the Census, and Ronald D. Lee and Shripad Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond High, Medium, and Low," *Journal of the American Statistical Association,* vol. 89, no. 428 (December 1994), pp. 1175-1189.

NOTE: n.a. = not available.

a. The 65-plus dependency ratio is the population age 65 or older as a percentage of the population ages 20 to 64.

The high/low bands for the 65-plus dependency ratio made by the Social Security Administration (SSA) and the Census Bureau differ so much because the two agencies focus on different end results. The Social Security Administration focuses on the actuarial balance of its trust fund, which depends on the 65-plus dependency ratio. Thus, SSA creates a high-cost path by combining assumptions that lead to a high 65-plus dependency ratio—that is, low rates of mortality, fertility, and net immigration. The opposite assumptions are made for a low-cost path. By contrast, the Census Bureau focuses on population totals. Thus, it creates a high path by combining assumptions that lead to a high population—that is, low mortality rates and high rates of fertility and net immigration. The opposite assumptions are made for a low population path. The combinations of assumptions that the Census Bureau uses lead to a narrow high/low band for the 65-plus dependency ratio.

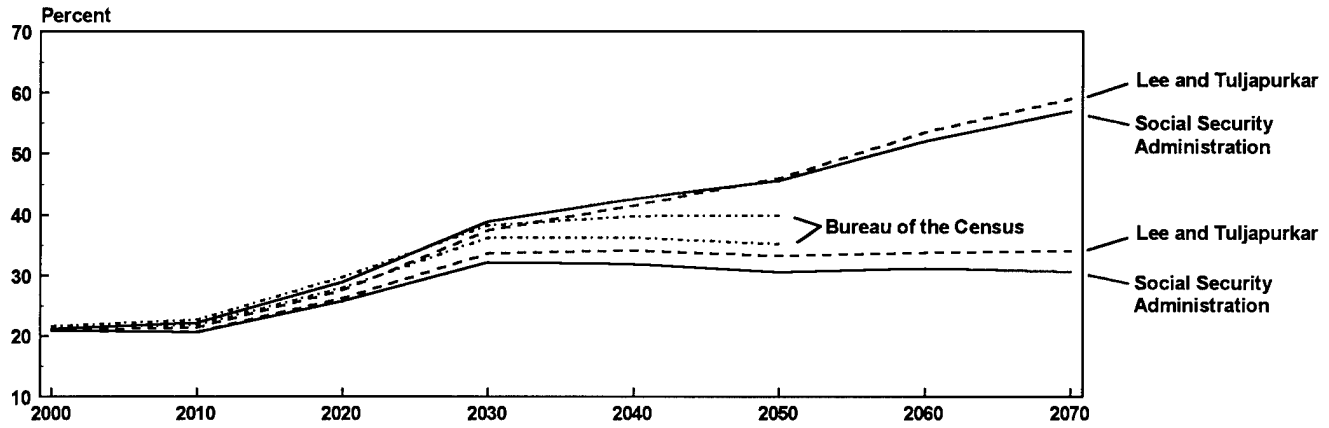
b. High and low alternative populations are determined by sensitivity analysis.

c. Lee and Tuljapurkar's populations are based on 750 stochastic projections that depend on a statistical model of population dynamics.

d. Upper and lower two-thirds bounds are determined by statistical analysis. The bounds bracket two-thirds of the stochastic outcomes so that one-sixth of outcomes lie above the upper bound and one-sixth lie below the lower bound.

e. The 85-plus dependency ratio is the population age 85 or older as a percentage of the population ages 20 to 64.

Figure 1-4.
High and Low Projections of the 65-Plus Dependency Ratio



SOURCE: Congressional Budget Office based on population projections from the Social Security Administration, the Bureau of the Census, and Ronald D. Lee and Shripad Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond High, Medium, and Low," *Journal of the American Statistical Association*, vol. 89, no. 428 (December 1994), pp. 1175-1189.

NOTES: The 65-plus dependency ratio is the population age 65 or older as a percentage of the population ages 20 to 64.

The high and low alternatives of the Social Security Administration and the Bureau of the Census are determined by sensitivity analysis.

The high and low alternatives of Lee and Tuljapurkar's stochastic populations are determined by statistical analysis so that there are an estimated two chances in three that the actual 65-plus dependency ratio in any year will be within the range shown above.

To address uncertainty, all of the forecasters also prepare alternative projections, although they use different methods. The Social Security Administration and the Census Bureau prepare their alternative projections simply by making different assumptions about fertility, mortality, and net immigration. In 2050, the 65-plus dependency ratio rises to 46 percent under the SSA's high path and to about 40 percent under the Census Bureau's high path. By contrast, the ratio is 31 percent under the SSA's low path and 35 percent under the Census Bureau's low path.[5] Lee and Tuljapurkar use statistical methods to develop alternative projections and thus can explicitly estimate the chance of error.[6] For instance, they calculate that there are about two chances in three that the 65-plus dependency ratio in 2050 will lie between 33 percent and 46 percent.

What leads to such ranges? Obviously, uncertainty about the future population stems from uncertainty about the rates of fertility, mortality, and immigration. Statistical analysis suggests that uncertainty about fertility accounts for roughly two-thirds of the long-term uncertainty about 65-plus dependency ratios.

Fertility. Uncertainty about future fertility makes the high/low band of the 65-plus dependency ratio start to fan out about 20 years from now as children not yet born enter the labor force (see Figure 1-4). Fertility has historically varied widely, as indicated by the total fertility rate, which in a given year is equal to the number of children a hypothetical woman would bear in her lifetime if she survived her childbearing years and experienced the birth rates at each age that are observed in

5. The high/low bands for the 65-plus dependency ratio made by SSA and the Census Bureau differ so much because the two agencies focus on different end results. The Social Security Administration focuses on the actuarial balance of its trust fund, which depends on the 65-plus dependency ratio. Thus, SSA creates a high-cost path by combining assumptions that lead to a high 65-plus dependency ratio—that is, low rates of mortality, fertility, and net immigration. The opposite assumptions are made for a low-cost path. By contrast, the Census Bureau focuses on population totals. Thus, it creates a high path by combining assumptions that lead to a high population—that is, low mortality rates and high rates of fertility and net immigration. The opposite assumptions are made for a low population path. The combinations of assumptions that the Census Bureau uses lead to a narrow high/low band for the 65-plus dependency ratio.

6. Ronald D. Lee and Shripad Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond High, Medium, and Low," *Journal of the American Statistical Association*, vol. 89, no. 428 (December 1994), pp. 1175-1189.

the given year. The total fertility rate fell from 3.3 children per woman after World War I to 2.1 during the Great Depression, rose to 3.7 in 1957, fell to 1.7 in 1976, then rose to the current rate of 2.0 children per woman. That rate is almost equal to the 2.1 percent rate that will hold the population roughly constant if mortality rates are constant and net immigration is zero. The various forecasters project that the total fertility rate will stabilize at roughly 2 children per woman (see Table 1-3).

Mortality. Mortality rates vary by age and sex but can be summarized by an overall mortality rate (the death rate adjusted for age and sex). That rate in a given year is equal to the crude death rate that would occur if people of each age and sex experienced the respective death rates that are observed or estimated for that year. From 1900 through 1994, the combined male and female mortality rate fell at an average rate of 1.1 percent a year. But that rate of decline has been quite uneven over time and among males and females of different ages (see Table 1-4). From 1968 through 1982, the combined mortality rate declined at a rate of 1.9 percent a year; from 1982 through 1994, it fell by 0.7 percent a year. Lee and Tuljapurkar project a more rapid rate of decline in the combined mortality rate than does either the Social Security Administration or the Census Bureau, but relatively more of that faster decline occurs among younger people, whose mortality rates are already low (see Table 1-5).

Immigration. Although net immigration also involves uncertainty, some things are clear: more people are likely to enter than leave the country, and a disproportionate number of immigrants will be of prime working age. The Immigration Act of 1990 sets future limits for most categories of immigrants, so much of the uncertainty involves the rates of emigration and of other-

Table 1-3.
Fertility Rates by Age (Number of children per woman)

Age	2000	2010	2020	2030	2040	2050	2060	2070
				Social Security Administration				
15 to 24	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8
25 to 34	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
35 or Older	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9
				Bureau of the Census				
15 to 24	0.9	0.9	0.9	1.0	1.0	1.0	n.a.	n.a.
25 to 34	1.0	1.0	1.0	1.0	1.0	1.0	n.a.	n.a.
35 or Older	0.2	0.2	0.2	0.2	0.2	0.2	n.a.	n.a.
Total	2.1	2.1	2.1	2.2	2.2	2.2	n.a.	n.a.
				Lee and Tuljapurkar				
15 to 24	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
25 to 34	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
35 or Older	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

SOURCE: Congressional Budget Office based on data from the Social Security Administration, the Bureau of the Census, and Ronald D. Lee and Shripad Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond High, Medium, and Low," *Journal of the American Statistical Association*, vol. 89, no. 428 (December 1994), pp. 1175-1189.

Table 1-4.
Past Average Annual Changes in Age-Specific Death Rates (In percent)

Age	1900-1936	1936-1954	1954-1968	1968-1982	1982-1994	1900-1994
Male						
0 to 14	-2.9	-4.7	-1.7	-4.4	-2.6	-3.3
15 to 24	-1.8	-3.1	0.3	-1.5	0.2	-1.5
25 to 64	-0.9	-1.8	0.2	-2.3	-0.7	-1.1
65 or Older	-0.2	-1.2	0.3	-1.5	-0.8	-0.6
Overall	-0.8	-1.6	0.2	-1.8	-0.8	-0.9
Female						
0 to 14	-3.1	-5.0	-1.7	-4.2	-2.5	-3.4
15 to 24	-1.9	-6.8	-0.3	-1.9	-0.5	-2.5
25 to 64	-1.1	-3.4	-0.6	-2.2	-0.7	-1.6
65 or Older	-0.3	-1.8	-0.8	-2.0	-0.4	-1.0
Overall	-0.9	-2.5	-0.8	-2.2	-0.5	-1.3

SOURCE: Congressional Budget Office based on data from the Social Security Administration.

than-legal immigration. (The act, however, sets no limits on immigration to reunite families.) For its intermediate projection, the Social Security Administration estimates that net immigration will settle at 900,000 people a year; for its low and high projections, 750,000 and 1,150,000 people a year.

Medical Spending per Enrollee Is Growing Rapidly

Federal outlays for health care have grown rapidly for many years, rising from 1.5 percent of GDP in 1975 to 3.8 percent in 1997. Higher enrollment accounted for some of that growth, but most of it stemmed from higher spending per enrollee (see Table 1-6).

Continued rapid growth in spending per enrollee is expected to further strain the budget. Even in the absence of an aging population, federal outlays for health care would rise as a share of GDP if spending per enrollee grew faster than nominal GDP per work-hour. Over the next two decades, spending per enrollee is projected to grow an average of almost 2 percentage points a year faster than GDP per work-hour.

Like the Medicare trustees, however, CBO assumes that spending per enrollee will not outpace GDP per work-hour forever. Both agencies assume that the growth rate of Medicare spending per enrollee will gradually fall to roughly that of the average wage (or to about that of GDP per work-hour) by 2020 and thereafter.[7] CBO makes a similar assumption for Medicaid. Without a change in the ratio of enrollees to workers, those assumptions would then make federal health spending grow at about the same rate as GDP.

On the basis of history and in the absence of policy action, those assumptions appear optimistic. Even so, CBO projects that federal spending for Medicare and Medicaid will consume a growing share of GDP—from 4 percent today to 10 percent by 2050.

Policy Options

Addressing the budgetary problems posed by an aging population and rising medical costs will involve difficult policy choices. To keep the deficit from eventually rising in relation to GDP, the Congress will have to reduce spending or raise taxes. Spending cuts might come from either of two major categories of outlays: discretionary spending, which is controlled by annual

7. Health Care Financing Administration, *The 1997 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund* (1997).

Table 1-5.
Projected Average Annual Changes in Age-Specific Death Rates (In percent)

Age	1995-2020	2020-2070	1995-2070
	Social Security Administration		
Male			
0 to 14	-2.4	-1.1	-1.6
15 to 24	-1.1	-0.5	-0.7
25 to 64	-1.3	-0.5	-0.8
65 or older	-0.5	-0.5	-0.5
Overall	-0.7	-0.5	-0.6
Female			
0 to 14	-2.4	-1.2	-1.6
15 to 24	-1.1	-0.5	-0.7
25 to 64	-1.0	-0.5	-0.7
65 or older	-0.4	-0.5	-0.5
Overall	-0.6	-0.5	-0.5
	Bureau of the Census[a]		
Male			
0 to 14	-1.8	-1.4	-1.6
15 to 24	-0.5	-0.3	-0.4
25 to 64	-0.7	-0.9	-0.8
65 or Older	-1.2	-0.9	-1.0
Overall	-1.0	-0.9	-0.9
Female			
0 to 14	-1.6	-1.3	-1.4
15 to 24	-1.0	-0.7	-0.8
25 to 64	-0.8	-0.8	-0.8
65 or Older	-0.7	-0.6	-0.6
Overall	-0.8	-0.6	-0.7
	Lee and Tuljapurkar		
Male			
0 to 14	-3.5	-3.5	-3.5
15 to 24	-1.4	-1.4	-1.4
25 to 64	-1.2	-1.2	-1.2
65 or Older	-0.8	-0.8	-0.8
Overall	-1.0	-0.9	-0.9
Female			
0 to 14	-3.3	-3.1	-3.2
15 to 24	-2.9	-2.8	-2.8
25 to 64	-1.8	-1.7	-1.8
65 or Older	-1.3	-1.2	-1.2
Overall	-1.4	-1.3	-1.3

SOURCE: Congressional Budget Office based on data from the Social Security Administration, the Bureau of the Census, and Ronald D. Lee and Shripad Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond High, Medium, and Low," *Journal of the American Statistical Association*, vol. 89, no. 428 (December 1994), pp. 1175-1189.

a. Projections by the Census Bureau extend only through 2050.

appropriations; or mandatory spending, which comprises entitlements (including Social Security, Medicare, and Medicaid) and spending under budget authority provided by laws other than appropriation acts. Most discretionary spending goes toward the purchase of goods and services from businesses and government workers. Those purchases are used to provide public goods, such as defense or roads. By contrast, most mandatory spending represents benefit payments made directly to or on behalf of individuals. Because Social Security and medical care already make up such a large part of current spending and represent the main source of future pressure on the deficit, resolving long-term imbalances is likely to be difficult without changing those programs.

Federal spending and revenues have changed in relation to each other and to the economy since World War II. Discretionary spending as a share of GDP has fallen significantly, but most of that decrease has taken place in the share for defense, which now constitutes about half of discretionary spending (see Table 1-7). Nondefense discretionary spending has remained a fairly stable fraction of GDP. The rise in the share of GDP devoted to mandatory outlays has resulted from an increase in Social Security and health care, which

Table 1-6.
Average Annual Rates of Growth in Federal Payments for Medicare and Medicaid (By fiscal year, in percent)

	1970-1975	1975-1980[a]	1980-1985	1985-1990	1990-1997	1997-2008 (Projected)
			Medicare			
Outlays[b]	16	18	15	9	10	7
Enrollees[c]	4	3	2	2	2	1
Outlays per Enrollee	12	15	13	7	8	6
Extra Growth[d]	3	7	6	3	5	2
			Medicaid			
Outlays[e]	20	15	10	13	13	7
Enrollees	9	0	0	3	6	2
Outlays per Enrollee	11	15	10	9	7	6
Extra Growth[d]	2	7	3	5	4	2
Memorandum:						
Growth in Nominal GDP per Work-Hour[f]	9	8	7	4	3	4

SOURCE: Congressional Budget Office based on data from the Health Care Financing Administration; the Department of Commerce, Bureau of Economic Analysis; and the Bureau of Labor Statistics.

a. Growth rates account for the change in the fiscal year that occurred in 1976.

b. Excludes Medicare premium receipts.

c. Based on enrollees in Medicare's Hospital Insurance program.

d. Extra growth denotes the difference between the growth rate of outlays per enrollee and the growth rate of nominal GDP per work-hour.

e. Includes administrative costs and payments to disproportionate share hospitals.

f. Work-hours are assumed to grow at the same rate as hours in the nonfarm, nonhousing business sector.

Table 1-7.
Federal Outlays and Receipts (By fiscal year)

	1965	1975	1985	1995	1997
			In Billions of Dollars		
Outlays					
Discretionary					
Defense	51	88	253	274	272
Other	27	70	163	272	277
Subtotal	78	158	416	545	549
Mandatory					
Social Security	17	64	186	333	362
Health	0	21	92	266	304
Other	23	85	170	219	229
Subtotal	40	170	448	818	895
Offsetting Receipts	-8	-18	-47	-80	-86
Net Interest	9	23	130	232	244
Total Outlays	118	332	946	1,516	1,601
Receipts					
Individual income taxes	49	122	335	590	738
Corporate income taxes	26	41	61	157	182
Social insurance taxes	22	85	265	485	539
Other	20	32	73	120	120
Total Receipts	117	279	734	1,352	1,579
Deficit (-) or Surplus	-1	-53	-212	-164	-22
Debt Held by the Public	261	395	1,500	3,603	3,771
			As a Percentage of GDP		
Outlays					
Discretionary					
Defense	7.4	5.6	6.2	3.8	3.4
Other	3.9	4.5	3.9	3.8	3.4
Subtotal	11.3	10.2	10.1	7.6	6.9
Mandatory					
Social Security	2.5	4.1	4.5	4.6	4.5
Health	0	1.3	2.2	3.7	3.8
Other	3.3	5.5	4.2	3.1	2.9
Subtotal	5.8	10.9	10.9	11.4	11.2
Offsetting Receipts	-1.1	-1.2	-1.1	-1.1	-1.1
Net Interest	1.3	1.5	3.2	3.2	3.1
Total Outlays	17.2	21.4	23.0	21.1	20.1
Receipts					
Individual income taxes	7.1	7.9	8.1	8.2	9.3
Corporate income taxes	3.7	2.6	1.5	2.2	2.3
Social insurance taxes	3.2	5.4	6.5	6.7	6.8
Other	3.0	2.0	1.8	1.7	1.5
Total Receipts	17.0	18.0	17.9	18.8	19.8
Deficit (-) or Surplus	-0.2	-3.4	-5.2	-2.3	-0.3
Debt Held by the Public	38.0	25.4	36.5	50.1	47.3
MEMORANDUM:					
Gross Domestic Product	687	1,554	4,108	7,194	7,972

SOURCE: Congressional Budget Office based on data from the Office of Management and Budget and the Department of Commerce, Bureau of Economic Analysis.

now collectively constitute about three-quarters of all mandatory spending and one-half of all noninterest spending. Taxes have grown slowly as a share of GDP for most of the postwar period.

Although an increase in taxes could forestall a spiral of higher deficits and slower growth, the increase would have further effects on the economy, depending on the type of tax. Those effects determine how various taxes affect not only specific groups but the overall economy as well. Adverse economic effects are more likely to occur if the tax hikes raise marginal income tax rates—that is, the tax collected on an extra dollar earned. Higher marginal income tax rates distort private choices by reducing the incentive for people to work and save, thereby reducing the long-term level of GDP. For that reason, many analysts propose that if taxes are raised to control future deficits, they be raised by broadening the tax base or by using a tax base that entails less distortion than the current system.

Cutting spending would initially reduce some people's income, although such cuts may lead to more output in the long run. Cost-effective cuts in spending would boost efficiency but would initially reduce incomes—for instance, those of health care providers or government workers and suppliers. Other cuts would reduce either the public goods provided by the government or the direct benefits that now go largely to the poor, sick, or elderly. Cuts in benefits could, however, increase private saving and work effort. For instance, lower promised benefits for Social Security would lead some people to save more and work longer to provide for their retirement. The increase in capital and labor would improve the economy, but people whose promised benefits were reduced would be made worse off by having to work more and consume less.

Any way of resolving the budgetary issues posed by an aging population and rising costs of health care per enrollee involves costs to someone. Although such costs can be postponed, they cannot be avoided. The longer an action is delayed, the larger the problem will grow. Acting now to reduce future deficits will give people time to adjust their plans and will avert the later need for a larger change in a shorter time.

Chapter Two

The Long-Term Budget Outlook

Although the Congressional Budget Office projects that the budget will be in surplus for most of the next decade, new pressures for higher spending will begin to build after that. A growing segment of the population will become eligible for federal health and retirement programs as the large baby-boom generation starts to retire around 2010. And federal health programs will face additional pressure as spending per enrollee continues to rise faster than the average wage.

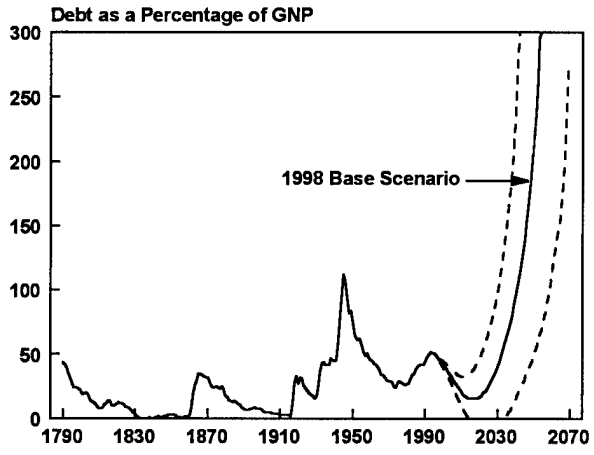
However, under the assumptions of CBO's base scenario, severe budgetary problems will not emerge for some time. The federal debt as a share of income is not projected to exceed today's level for more than three decades (see Figure 2-1). Debt is projected to rise sharply thereafter, driven mainly by spending on Social Security, Medicare, Medicaid, and federal interest payments.

The projected imbalance between spending and revenues will almost certainly have to be addressed eventually. Early action offers distinct advantages. Federal health and retirement programs affect people's life plans, and announcing any potential changes to those programs well in advance would allow people more time to adjust. In addition, if action was delayed significantly, more-dramatic policy changes would be needed to correct the imbalance.

The respite from long-term problems depends in part on maintaining budget surpluses through 2008 and beyond. If those surpluses were eliminated by raising spending or cutting taxes, the long-term budget outlook would worsen significantly.

Although a considerable imbalance remains, the long-term picture has improved substantially over the past year. In March 1997, CBO estimated that the budget would deteriorate much more quickly than it now

Figure 2-1.
Long-Term Projections of Federal Debt Compared with Historical Levels



SOURCE: Congressional Budget Office.

NOTES: The area between the dotted lines reflects statistical uncertainty about population and productivity. The dotted lines were calculated from 750 different paths for population and productivity so that two-thirds of the projections of the debt-to-GNP ratio lie between them. The different paths for population and productivity were developed from statistical models.

This figure uses gross national product (GNP) rather than gross domestic product (GDP) in order to match historical economic data. GNP differs from GDP in that it includes the income that U.S. residents earn abroad and excludes the income that nonresidents earn in the United States.

projects. The change results entirely from revisions in CBO's 10-year budget projections. (Those projections are based on a detailed, program-by-program examination of the budget; the long-term projections extend the 10-year estimates according to relatively simple rules.) Altered economic and technical assumptions for the 1998-2008 period and recent policy changes (including the Balanced Budget Act of 1997) prompted CBO to revise its 10-year projections.

Uncertainty plagues all budget forecasts, and long-term projections are especially vulnerable. CBO investigated the degree of uncertainty in its long-term estimates by using a broad range of alternative assumptions. It concluded that the budget outcomes could be either brighter or more severe than those projected under the base scenario. Whatever the exact figures, however, some degree of pressure on the budget is almost certain.

Budgetary Assumptions

CBO's long-term projections cannot be based solely on extending current laws. For example, the part of the budget known as discretionary spending is subject to yearly appropriation decisions by the Congress rather than permanent laws. The Balanced Budget Act of 1997 capped discretionary spending through 2002; thereafter, such spending is subject to annual appropriations that can be more or less than current levels. In addition, many programs governed by permanent laws have been periodically adjusted by the Congress for various reasons, such as population growth, inflation, real (inflation-adjusted) growth in wages, and changes in demand for government programs. Extending current law over decades would make little sense in those cases. In its analysis, CBO therefore takes a more abstract view of what it means to maintain current policy over the long term.

For the years through 2008, CBO's long-term budget model follows the agency's 10-year baseline projections, published in *The Economic and Budget Outlook: Fiscal Years 1999-2008* (January 1998). In those projections, taxes and mandatory spending reflect current laws, and discretionary spending grows with inflation, subject to the statutory caps.

In the years beyond 2008, spending and revenues follow rules that appear reasonable over the long term:

- In the base scenario, discretionary spending is assumed to remain constant as a share of the nation's income. In an alternative scenario, discretionary spending grows only at the rate of inflation and therefore declines relative to gross domestic product (which increases with both economic growth and inflation).

- Revenues are assumed to remain constant as a share of GDP.

- Outlays for Social Security are assumed to grow at the rate projected by the trustees of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds under the intermediate assumptions in their 1997 annual report, adjusted for differences in economic assumptions.[1] For example, because real wage growth is higher in the early years of the CBO projection than the trustees assume, real growth in Social Security outlays is also higher, since benefits depend on past wages. In some alternative scenarios, CBO also adjusted the trustees' projected growth rates for different assumptions about demographic trends.

- Medicare outlays are assumed to grow at the rates projected by the program's trustees in 1997, adjusted for different economic assumptions.[2] (Their projections assume that the rates of growth of spending per Medicare enrollee gradually slow over the next two decades to be roughly in line with the growth of the average wage.) In some alternative scenarios, the trustees' projected growth rates are adjusted for different assumptions about demographic trends. In another scenario, the growth rates are adjusted by assuming that the slowdown in growth of spending per enrollee is delayed.

1. The Social Security trustees released their 1998 report after CBO finished its analysis. Their 1998 projections are only slightly more optimistic than last year's; using them would not have changed CBO's analysis by much.

2. The Medicare trustees released their 1998 report after CBO finished its analysis. However, if CBO had used the new projections, its estimates would not have changed appreciably. CBO's forecasts anticipated the decline in the trustees' projections of Medicare outlays.

- Medicaid outlays are assumed to increase with demographic demands and the growth of expenditures per enrollee. In the base case, the growth rate of expenditures per enrollee is assumed to slow gradually to match that of average wages by 2020, roughly consistent with the Medicare trustees' assumption. In an alternative scenario, the slowdown in growth is delayed. Other alternatives incorporate different demographic assumptions.

- Civilian and military retirement benefits are assumed to match the growth rates projected by the Office of Personnel Management and the Department of Defense, respectively. As in the case of Social Security and Medicare, those growth rates are adjusted for differing economic assumptions.

- Other benefit payments grow with demographic demands and the growth of productivity plus inflation.

- Aid to states and localities (other than for Medicaid) is assumed to stay constant as a share of income. In an alternative, the discretionary part of that aid is assumed to grow only with inflation.

Those assumptions do not represent a prediction of what will actually happen, since policymakers will almost certainly alter current policies as circumstances change, particularly if the fiscal situation begins to deteriorate significantly. Rather, estimates using those assumptions illustrate the possible effect of continuing historical patterns of spending and revenues in the face of growing pressure on the budget from demographics and health expenditures.

Economic Assumptions

The federal budget can affect the economy, and the economy can in turn affect the budget. Budget deficits can "crowd out" private investment and reduce economic output by diverting saving from investment in productive capital to the purchase of government bonds. In addition, increased government debt can raise interest rates by increasing the demand for savings. At the same time, the economy affects the budget in that lower output reduces tax revenues, and higher interest rates raise payments on the federal debt.

CBO takes account of the interactions between the budget and the economy by embedding the budgetary assumptions in its model of the economy. In that model, economic output depends on hours of labor, the size of the capital stock, and total factor productivity. (TFP determines the amount of output that can be produced with given quantities of labor and capital; it can be thought of as a measure of production technology.) For simplicity, the model assumes that unemployment stays constant at a level consistent with stable inflation over the long run; therefore, the model does not include any short-term cyclical interactions between the budget and the economy. In addition, in the model, tax rates do not affect labor supply or private saving, and real government investment does not affect private output.

The base economic assumptions used in the model follow CBO's 10-year projections through 2008. After that, economic developments are also governed by rules:

- Hours of labor supplied by each person of a given age and sex are assumed to remain constant. Therefore, as growth of the population ages 20 to 64 slows down and growth of the elderly rises, the growth in total hours slows, because the elderly supply fewer hours of labor on average than the middle-aged do.

- The private capital stock grows as net investment is added. Budget surpluses increase national saving and investment. Conversely, budget deficits lead to lower national saving and investment.

- Total factor productivity grows consistent with its postwar average of about 1 percent per year in the base scenario; in alternatives, it grows faster or more slowly.

- Interest rates move one for one with the return on capital (that is, the return earned on real investment such as plant and equipment after corporate taxes). If the capital stock falls relative to output, the return on capital rises, boosting interest rates.

- Inflation, as measured by the GDP deflator, remains constant at a rate of 2.5 percent per year after 2008.

In the model, deficits also affect both net borrowing from foreigners and private saving in ways that offset part of their impact on private investment. Net borrowing from foreigners is assumed to increase as deficits rise and national saving falls. In essence, some of the government's borrowing is financed by foreigners. To the extent that foreigners finance a deficit, domestic investment and output decline less. However, increased foreign borrowing implies that a greater share of future debt payments will flow to foreigners, reducing the portion of domestic output available for consumption.

In addition, for a variety of reasons, private saving is assumed to rise with increased deficits. To the extent that larger deficits are caused by higher benefit payments or lower taxes, they represent greater disposable income relative to GDP and thus more saving (as long as not all of the increased income is consumed). Higher deficits can also raise interest rates, which may increase saving. Finally, some people facing increased deficits may save more in anticipation of the fact that taxes could rise in the future to finance higher interest payments or retire the additional debt. CBO's model assumes that all of those effects combine to raise private saving by 50 cents for each $1 increase in the deficit. (If deficits do not change, private saving is assumed to remain constant as a share of income.)

The Base Scenario for the Long-Term Budget Outlook

Using its base assumptions, CBO projects that the fiscal situation will improve over the next decade and then

Table 2-1.
Projections of Federal Receipts and Expenditures Under CBO's Base Scenario, 1997-2050
(As a percentage of GDP)

	1997	2000	2010	2020	2030	2040	2050
NIPA Receipts	21	21	20	20	20	20	20
NIPA Expenditures							
Federal consumption expenditures	6	5	4	4	4	4	4
Federal transfers, grants, and subsidies							
Social Security	4	4	5	6	6	7	7
Medicare	3	3	4	5	6	7	7
Medicaid	1	1	2	2	2	3	3
Other	5	5	4	4	4	4	4
Net interest	3	2	1	1	2	6	19
Total	22	21	20	22	25	30	43
NIPA Deficit (-) or Surplus	0	0	1	-1	-5	-10	-23
Debt Held by the Public	47	42	21	17	40	93	206
Memorandum:							
Gross Domestic Product (Trillions of dollars)	8.1	9.2	14.6	22.4	33.1	48.5	67.7

SOURCE: Congressional Budget Office.

NOTES: The base scenario assumes that rising deficits affect interest rates and economic growth.

NIPA = national income and product accounts.

progressively deteriorate because of demographics, health costs, and increasing interest payments. The budget, as measured in the national income and product accounts (NIPAs), is projected to remain in surplus —and the ratio of debt to GDP to decline—until about 2015 (see Table 2-1).[3] Thereafter, the budget will move into deficit, and the debt will begin to grow. By the early 2040s, CBO projects, federal debt will exceed 100 percent of GDP. That is about twice as high as the current ratio and is a level previously reached only at the end of World War II.

The primary forces acting on the budget in the long run come from Social Security, Medicare, Medicaid, and, ultimately, interest payments. In the base scenario, Social Security benefits rise from 4 percent of GDP in 1997 to 7 percent in 2050; Medicare and Medicaid together rise from 4 percent of GDP in 1997 to 10 percent in 2050. Increased spending on those health and retirement programs leads to increased deficits, rising debt, and higher interest payments on that debt. As a result, net interest payments climb from 3 percent of GDP in 1997 to 19 percent in 2050.

The gap between projected spending and revenues can be illustrated with a single measure. That measure, the "fiscal gap," represents the size (as a percentage of GDP) of the immediate and permanent tax increase or spending cut required to keep the ratio of debt to GDP below its current level of about 50 percent through 2070. In CBO's base scenario, the fiscal gap is 1.6 percent of GDP—about 8 percent of total federal tax revenues or spending.

The fiscal gap is intended to be only an illustrative device for measuring the magnitude of the long-term budgetary imbalance, not a prescription for policy. A sudden tax increase or spending cut as large as the fiscal gap could push the economy into recession and greatly disrupt people's plans.

3. NIPA spending and revenue measures differ from the more commonly cited unified budget because of a variety of accounting and timing differences. The NIPA measures are used in CBO's long-term budget model to match the economic variables in the model. One important budget rule is defined in terms of discretionary spending, a category of the unified budget. For the purposes of that rule, discretionary spending is estimated by assuming that the shares of the NIPA categories that represent discretionary spending remain consistent with recent shares. The bulk of discretionary spending is included in the NIPAs as federal consumption expenditures.

The fiscal gap provides a convenient way to compare projections made at different times or under different assumptions. Comparisons using projections of the deficit or total debt are more difficult because small differences in the primary deficit (noninterest outlays minus revenues) can compound over time into very large differences in the overall deficit and debt. The fiscal gap is not subject to that problem.

Improvements in the Past Year

The long-term outlook has brightened considerably over the past year. In March 1997, CBO estimated a fiscal gap of 4.1 percent of GDP (see Table 2-2). That estimate is now 1.6 percent because of the improvement in CBO's 10-year projections. A better-than-expected economy, policy actions such as the Balanced Budget Act of 1997, and technical revisions in estimates have swung the projected fiscal position in 2007 from a NIPA deficit of 2.3 percent of GDP in last year's projections to a surplus of 1.1 percent in the current projections.

In other words, the improved 10-year outlook has eliminated roughly 60 percent of the long-term fiscal gap. (Minor changes in long-term assumptions since last year have not affected that gap.) That improve-

Table 2-2.
Changes in the Fiscal Gap Since 1997

	Fiscal Gap (Percentage of GDP)
March 1997 Estimate	4.1
Changes Since March 1997	
Changes in the 10-year projections	-2.5
Changes in the long-term assumptions	0
May 1998 Estimate	1.6

SOURCE: Congressional Budget Office.

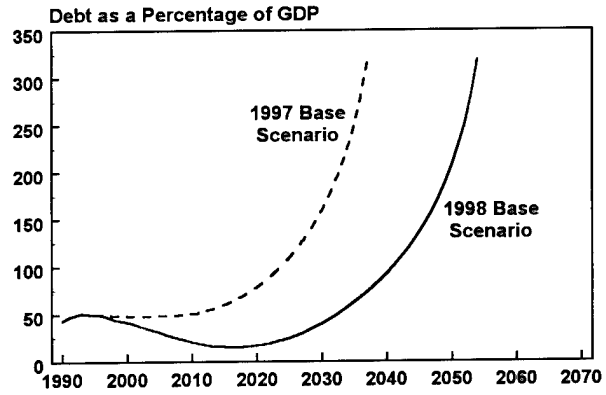
NOTE: The fiscal gap is the size of the permanent tax increase or spending cut that would be needed to keep the ratio of federal debt to GDP at or below its current level from 1997 through 2070.

ment is also reflected in the fact that, relative to the March 1997 estimate, the debt-to-GDP ratio is now projected to take longer before it begins to rise sharply (see Figure 2-2).

CBO's budget model uses simple rules to extend budget estimates beyond the last year of the 10-year projections, so the level of deficit or surplus forecast for 2008 has an important influence on the long-term projections. In the absence of other changes, differences in the primary budget surplus (revenues minus noninterest outlays) in the last year of the 10-year projections tend to be carried on through 2070. By implication, when that primary NIPA surplus changes as a share of GDP, the estimated fiscal gap changes by about the same amount. For example, between March 1997 and now, the forecast for the primary surplus in 2007 went from 0.5 percent to 2.7 percent of GDP, an increase of 2.2 percentage points. Correspondingly, the fiscal gap fell from 4.1 percent to 1.6 percent, a drop of 2.5 percentage points.

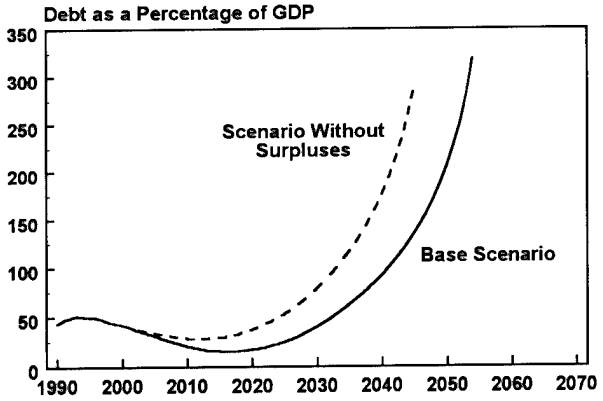
The large change from last year's estimated fiscal gap to this year's underscores the uncertainty of long-term forecasts. A large part of the revision in the 10-year projections resulted not from policy but from unexpected budgetary and economic developments (especially higher-than-expected revenues and GDP) that led to altered views about expected revenues and spending. In the same way, other unforeseen events could lead to either a significant worsening or a further improvement in the 10-year outlook, which would affect the long-term outlook accordingly.

Figure 2-2.
The Ratio of Debt to GDP Under CBO's 1997 and 1998 Base Scenarios



SOURCE: Congressional Budget Office.

Figure 2-3.
The Ratio of Debt to GDP With and Without Budget Surpluses Through 2008



SOURCE: Congressional Budget Office.

NOTE: The base scenario matches CBO's 10-year baseline projections, which show budget surpluses from 2001 through 2008. The scenario without surpluses assumes that the surpluses are reduced to zero (that is, the budget is balanced) for those years.

The positive change in the long-term outlook is not unexpected given the improvement in the 10-year projections since March 1997. In an alternative projection made last year, CBO estimated that balancing the budget from 2002 through 2007 would lead to a much better long-term outlook, but that longer-run pressures would nonetheless eventually push debt to unsustainable levels. That remains the case today, although the projected surpluses make the long-term outlook even more positive than that 1997 "balanced budget" projection indicated.

The Cost of Spending Budget Surpluses

Spending the surpluses projected over the next decade would significantly worsen the long-term outlook. CBO's base scenario assumes that surpluses will be maintained from 2001 through 2008. If, instead, tax cuts or spending increases left the budget exactly balanced through 2008, pressures on the budget would

build somewhat more quickly (see Figure 2-3). The fiscal gap would rise to 2.3 percent.[4] That estimate is consistent with previous CBO projections: in the March 1997 balanced budget scenario, CBO estimated that the fiscal gap would be 2.3 percent if the budget was balanced from 2002 through 2007.

The Cost of Inaction

Although pressures on the budget do not begin building for a number of years under the base scenario, any substantial delay in addressing those pressures could make the actions needed to deal with them more severe. For example, if no action was taken until 2020, the fiscal gap would increase to 3.0 percent of GDP, almost double the current estimate (see Table 2-3). Waiting until 2030 would widen the gap to 4.4 percent.

Furthermore, beneficiaries and taxpayers would be better off if they had more time to adjust to policy changes. Many people may plan for their retirement with a certain amount of public benefits in mind. If program changes were announced well in advance or phased in slowly, current workers could compensate for reduced benefits by saving more or working longer. The strategy of advance announcement was used in the last major adjustment to Social Security, in 1983. The retirement age was raised, but via a slow phase-in that began to take effect only for people turning 62 in 2000. Such a strategy, however, requires that the future pressures on programs be addressed before they become severe. Changes in spending made in response to a crisis would have to be immediate, leaving no time for people to adjust.

Alternative Long-Term Scenarios

Although CBO's base scenario incorporates reasonable assumptions, many alternative scenarios are possible. Altering some key assumptions produces a range of

4. That scenario assumes that half the projected surpluses are spent on increased discretionary spending and half on reduced taxes. The fiscal gap would be higher if spending was increased in a fast-growing category such as Medicare.

Table 2-3.
The Fiscal Gap Under Various Assumptions

Assumption	Fiscal Gap (Percentage of GDP)
CBO's Base Assumptions	1.6
Budget Surpluses	
No Surpluses Through 2008	2.3
Delayed Policy Action	
No Action Until 2020	3.0
No Action Until 2030	4.4
Discretionary Spending	
Discretionary Spending Grows with Inflation After 2008	0.4
Population	
Social Security Trustees' Low-Cost Population Assumptions	0.6
Social Security Trustees' High-Cost Population Assumptions	3.0
Productivity	
Total Factor Productivity Grows by 1.5 Percent a Year After 2008	0.4
Total Factor Productivity Grows by 0.5 Percent a Year After 2008	2.9
Federal Health Spending	
Slowdown in Growth of Spending per Enrollee Is Delayed by 10 Years	3.7
Economic Variables	
Interest Rate on Government Debt Equals Growth Rate of GDP After 2008	1.6
No Economic Feedbacks	1.3

SOURCE: Congressional Budget Office.

NOTE: The fiscal gap is the size of the permanent tax increase or spending cut that would be needed to keep the ratio of federal debt to GDP at or below its current level from 1997 through 2070.

results, which illustrate the uncertainty inherent in long-term estimates.

Discretionary Spending

Discretionary spending is provided by the Congress in 13 annual appropriation bills and includes most spending on defense, foreign aid, science, space, transportation, environmental protection, and law enforcement, among other programs. Because such spending is subject to yearly appropriations, it is difficult to project on a long-term basis.

Discretionary spending has declined from a high of 13.6 percent of GDP in fiscal year 1968 to 6.9 percent in 1997. (Discretionary spending has been calculated as a separate spending category only since the early 1960s.) CBO's 10-year projections estimate a further drop, to 5.0 percent of GDP, by 2008. Should a long-term projection of current policy continue that decline, keep the ratio of discretionary spending to income constant, or raise the ratio to its historical average level?

CBO's base scenario assumes that the ratio of discretionary spending to income will remain constant at its 2008 level. One alternative would be to assume that discretionary spending will grow only at the rate of inflation. That assumption implies a much slower rise in the ratio of debt to GDP (see Figure 2-4). In addition, the estimated fiscal gap under that assumption is only 0.4 percent.

Holding the growth of discretionary spending to the rate of inflation might be difficult, however. Such a policy would imply that the share of income devoted to discretionary spending would shrink from 6.9 percent of GDP in fiscal year 1997 to roughly 2.5 percent in 2050. Historically, the share of income spent on domestic (that is, nondefense) discretionary spending has been quite stable—even in recent years, when steep deficits led to serious efforts to curb spending. That stability suggests that substantially reducing domestic discretionary spending relative to income over the long term could be difficult.

By contrast, defense discretionary spending has fallen significantly as a share of income over the past decade, from 6.1 percent of GDP in fiscal year 1987 to 3.4 percent in 1997. That drop partly reflects a decline in the size of the U.S. armed forces since the end of the Cold War and has come largely from a decrease in procurement of new equipment. That procurement will need to pick up if the Department of Defense (DoD) is to maintain the forces it now plans and avoid large increases in the average age of some types of military equipment. Cuts in spending on operations could possibly finance some portion of the increased procurement. However, it may be hard to cut operating funds enough to finance all of the increased procurement needs, given that DoD has already made significant cuts in that area.

Population

Future fertility and mortality rates will largely determine the size of the working population relative to that of the elderly. Those rates cannot be predicted with certainty, however. (See Chapter 1 for a discussion of demographic uncertainty.) To account for that uncertainty, the Social Security trustees project high- and low-cost population paths in addition to the intermediate population assumptions that CBO used in its base scenario.

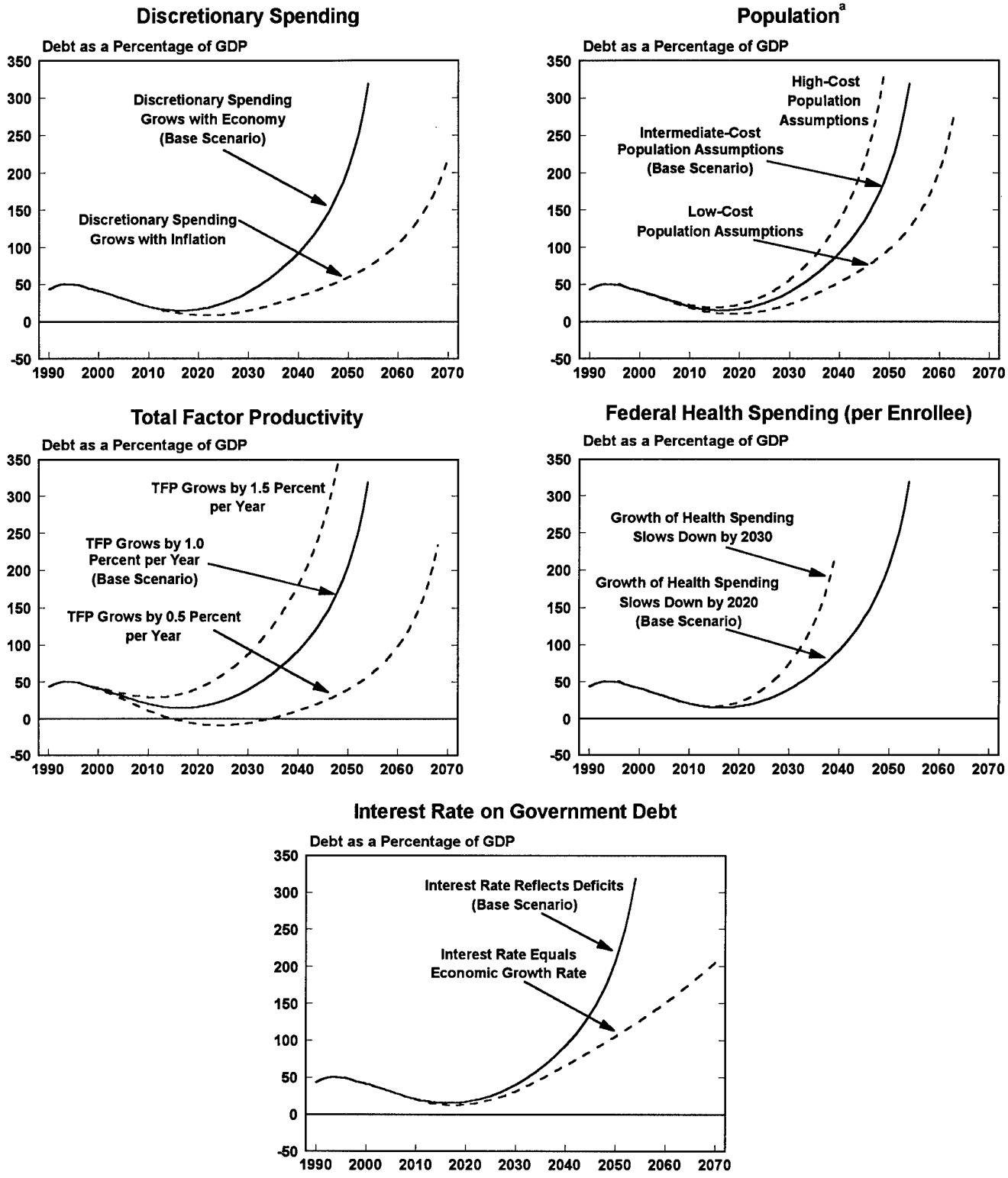
The low-cost path has relatively high mortality among the elderly as well as high fertility rates. That combination implies fewer beneficiaries for old-age programs such as Social Security, Medicare, and Medicaid (which finances long-term care for poor elderly people) and more working-age taxpayers to pay for the programs.[5] The high-cost path has low mortality and fertility rates, with the opposite effects.

Replacing the intermediate assumptions in the base scenario with either the low- or high-cost population assumptions slows down or speeds up, respectively, the growth of federal debt as a share of GDP (see Figure 2-4).[6] In addition, using the low-cost population projection lowers the estimated fiscal gap to 0.6 percent of

5. Other benefit programs, such as unemployment insurance and Food Stamps, are also affected by the alternative population assumptions, but to a lesser extent. Because the working-age population differs among the alternatives, economic output will differ as well.

6. The trustees' high-cost and low-cost projections for Social Security outlays and receipts include both different population paths and different economic assumptions. CBO's two alternative projections use the different population paths from Social Security but follow the economic assumptions from CBO's long-term budget model.

Figure 2-4.
The Ratio of Debt to GDP Under Various Assumptions



SOURCE: Congressional Budget Office.

NOTE: TFP = total factor productivity.

a. Uses the Social Security trustees' alternative population assumptions.

GDP; using the high-cost projection raises it to 3.0 percent.

Productivity

Productivity growth is a key component of economic growth. Although total factor productivity grew quickly in the first two decades after World War II, its average growth slowed significantly in the 1970s. Since the 1980s, TFP has been growing by about 0.6 percent each year. CBO's base scenario assumes that the growth rate of TFP will rise to 1 percent per year after 2008, consistent with its postwar average.

Growth of productivity affects the projected budget balance. Higher growth is assumed to raise both revenues and most outlays, although it does not directly affect interest costs, and Social Security costs respond only with a substantial lag. (That delay occurs because real growth affects retirement spending only as new retirees, with a higher wage history, enter the program; benefits for current retirees grow only at the rate of inflation.) As a result, higher productivity and economic

Box 2-1.
A Statistical Analysis of the Long-Term Outlook Using Alternative Assumptions About Productivity and Demographics

To analyze how uncertainty about productivity and demographics affects the long-term projections, the Congressional Budget Office used a wide range of assumptions generated from statistical models based on the historical behavior of those two variables.[1] Those assumptions, randomly combined, led to 750 different projections.

As an illustration of how uncertainty about productivity and population affects the long-term estimates, Figure 2-1 shows high- and low-debt paths selected so that the ratio of debt to income in two-thirds of the 750 projections falls between the two paths. Debt ultimately rises above sustainable levels even on the low-debt path.

A different perspective on the degree of uncertainty in the long-term estimates can be gained from examining the percentage of the 750 projections in which certain conditions are met. For example, by 2070, debt exceeds 200 percent of gross domestic product in 86 percent of the projections (see the table below). In addition, by 2070, real gross national product per capita has declined for three successive years in 83 percent of the projections.

1. The alternative population assumptions were provided by Ronald D. Lee and Shripad Tuljapurkar. See Lee and Tuljapurkar, "Stochastic Population Forecasts for the United States: Beyond the High, Medium, and Low," *Journal of the American Statistical Association*, vol. 89, no. 248 (December 1994), pp. 1175-1189.

Estimated Probabilities of Adverse Outcomes Using the Assumptions of the Base Scenario, Calendar Years 2000-2070 (In percent)

	2000	2010	2020	2030	2040	2050	2060	2070
Federal Debt Rises Above 200 Percent of Gross Domestic Product	0	0	1	2	21	55	75	86
Real Gross National Product per Capita Declines for Three Consecutive Years	0	1	2	4	14	42	68	83

SOURCE: Congressional Budget Office.

growth reduce the projected budget deficit and delay the point at which budgetary problems become unmanageable.

If total factor productivity grew 0.5 percentage points faster each year than the 1 percent rate in the base scenario, the estimated fiscal gap would fall to 0.4 percent. Conversely, if TFP grew 0.5 percentage points slower, the estimated gap would rise to 2.9 percent.

Because productivity and demographics are so important to the long-term projections, CBO took a more detailed look at the combined impact of uncertainty in those two variables (see Box 2-1). That analysis confirms that alternative assumptions about productivity and population would not alter CBO's qualitative conclusions.

Medical Expenditures per Enrollee

During the postwar period, spending per enrollee on federal health programs has tended to rise faster than the average wage (see Chapter 1 for more details). That growth in expenditures stems from increases in the number and quality of services provided per enrollee, including the expanded use of expensive medical technology. CBO's base scenario follows the Medicare trustees in assuming that the growth of expenditures per enrollee will slow to roughly the growth of the average wage by 2020. That assumption could be seen as optimistic, given that no explicit policy to restrain the growth of medical spending is specified. If one assumed instead that the slowdown in the growth of expenditures per enrollee was delayed by a decade, the estimated fiscal gap would rise to 3.7 percent of GDP. That increase highlights how important the assumption about medical costs is to projections of the long-term budget outlook.

Interest Rates

During the 1980s and 1990s, the interest rate on government debt has averaged 8.3 percent, whereas economic output (measured in current year dollars) has grown at an average rate of 6.5 percent. The relative levels of those rates are important because when the interest rate is greater than the growth rate of output, the ratio of debt to GDP will tend to rise even when the primary budget is balanced.

In CBO's 10-year projections, the interest rate on debt continues to exceed the growth rate of output, as it has for the past two decades. The base scenario assumes that that difference eventually expands as interest rates rise and economic growth rates fall.

During some periods in the nation's history, however, the interest rate on federal debt has been at or below the growth rate. An alternative assumption would set the interest rate on federal debt equal to the nominal growth rate of the economy after 2008. In that case, the long-term outlook would be much brighter, although pressures on the budget would still build eventually. The fiscal gap, however, would be little changed.[7]

Comparison with Other Agencies' Long-Term Projections

The projections under CBO's base assumptions are very similar to ones presented in February 1998 by the General Accounting Office (GAO).[8] That similarity is not surprising given that GAO's estimates match CBO's 10-year projections through 2008, and its long-term assumptions do not differ greatly from CBO's.

Long-term projections by the Office of Management and Budget (OMB) are much more optimistic than those of CBO or GAO.[9] OMB's projections differ from CBO's base projections in that they do not allow the budget to affect the economy. For purposes of comparison with OMB's projections (and with others in which the economy is independent of the budget), CBO also produced estimates that do not allow for feedbacks between the deficit and the economy. In projections

7. The fiscal gap would not shrink because under the assumptions used to estimate the gap, the government would be a net holder of assets for much of the next century. With lower interest rates, the government pays less interest when it is a debtor, but earns less interest when it is a lender.

8. See the statement of Paul L. Posner, Director, Budget Issues, Accounting and Information Management Division, General Accounting Office, before the Senate Committee on the Budget, published as General Accounting Office, *Long-Term Fiscal Outlook*, GAO/T-AIMD/OCE-98-83 (February 25, 1998).

9. *Budget of the United States Government, Fiscal Year 1997: Analytical Perspectives.*

Table 2-4.
Projections of Federal Receipts and Expenditures Without Economic Feedbacks, 1997-2050
(As a percentage of GDP)

	1997	2000	2010	2020	2030	2040	2050
NIPA Receipts	21	21	20	20	20	20	20
NIPA Expenditures							
Federal consumption expenditures	6	5	4	4	4	4	4
Federal transfers, grants, and subsidies							
Social Security	4	4	5	5	6	6	6
Medicare	3	3	4	5	6	7	7
Medicaid	1	1	2	2	2	3	3
Other	5	5	4	4	4	4	4
Net interest	3	2	1	1	1	2	4
Total	22	21	19	21	24	26	27
NIPA Deficit (-) or Surplus	0	0	1	-1	-3	-5	-7
Debt Held by the Pubic	47	42	21	15	32	61	94
Memorandum:							
Gross Domestic Product (Trillions of dollars)	8.1	9.2	14.6	22.9	35.1	54.0	82.1

SOURCE: Congressional Budget Office.

NOTES: Projections without economic feedbacks assume that rising deficits do not affect either interest rates or economic growth. Other assumptions are the same as those of the base scenario.

NIPA = national income and product accounts.

without economic feedbacks, unlike in the base scenario, deficits do not reduce investment and thus economic growth.[10] In addition, the capital stock does not shrink relative to output; therefore, interest rates do not rise, as they ultimately do under the base assumptions.

Ignoring those negative effects on the economy (which in turn worsen the deficit) results in a more optimistic long-term outlook than under the base assumptions (see Table 2-4). The fiscal gap, however, narrows only a little, to 1.3 percent of GDP. (That change is small because, by definition, the fiscal gap requires the ratio of debt to GDP to be about the same in 2070 as today, implying little net effect of fiscal policy on investment or interest rates by the end of that period.)

CBO's projections without economic feedbacks are a good deal more pessimistic than OMB's because of differences both over the first 10 years and in the long-term assumptions. OMB forecasts a unified-budget surplus of 2 percent of GDP in fiscal year 2008, compared with CBO's estimate for the unified surplus of 1 percent of GDP.

Over the long run, OMB assumes that discretionary spending will grow more slowly, and revenues more quickly, than CBO does. In addition, it has mandatory spending (other than for Social Security, Medicare, and Medicaid) increasing more slowly than under CBO's base assumptions. Nevertheless, OMB projects that deficits will eventually reemerge in the next century—but much later, and less strongly, than CBO projects.

10. This scenario eliminates the effect of the deficit on investment by holding the ratio of investment to output constant at its 2008 level for all succeeding years.

Conclusions

The long-term outlook for the budget has improved substantially over the past year. Nevertheless, although there is a great deal of uncertainty in long-term projections, CBO estimates that a long-term fiscal imbalance remains. Under some optimistic assumptions, future pressures on the budget may be relatively light; under pessimistic assumptions, those pressures could be quite severe. Under almost any reasonable assumptions, however, spending on programs for the elderly will rise with the retirement of the baby-boom generation. Some type of fiscal action—either cuts in spending or increases in revenues—will most likely be necessary to deal with that development.

Chapter Three

Slowing the Growth in Social Security

In 2008, the oldest members of the baby-boom generation will turn 62 and become eligible for early retirement benefits under Social Security. For about two decades thereafter, spending on Social Security benefits will rise steeply as workers born between 1946 and 1964 begin to collect benefits. Meanwhile, the growth of the labor force will slow significantly as the baby boomers retire. As a result of that demographic shift, the number of Social Security beneficiaries will be increasing much more rapidly than the number of workers paying Social Security taxes.

Last year, the federal government spent almost $400 billion to provide Social Security benefits to 44 million retired or disabled workers, their dependents, and survivors. The Social Security program's trustees project that in 2030, under the current benefit structure, total spending (in 1997 dollars) will more than double to over $800 billion for 82 million beneficiaries. But the trustees also anticipate that the Social Security trust funds will be depleted in 2029, in the absence of legislative change. By 2030, revenues earmarked for the Social Security program will be sufficient to pay only three-quarters of the program's projected costs.[1]

Both the Congress and the Administration are interested in addressing that shortfall well before the baby boomers begin drawing benefits. Last year, both budget committees, the Senate Finance Committee, and the House Ways and Means Committee held hearings on the problems facing the Social Security system, and several Members introduced bills to scale back and restructure the program. In this year's State of the Union address, the President called for a national debate on Social Security throughout 1998, to be followed by negotiations with the Congressional leadership over Social Security reform in early 1999.

Policymakers are also considering pairing a reduction in the Social Security program with the establishment of mandatory individual investment accounts owned and directed by the workers themselves. Such proposals, often referred to as "privatization," would give those workers control over how their money is invested. Although establishing mandatory accounts would not resolve the projected shortfall between revenues earmarked for Social Security and program costs, they would provide an alternate source of income for former workers and their families if Social Security benefits were scaled back, and they could promote national saving. Specific issues raised by those privatization proposals, and discussed below, include their design as well as their potential effect on the economy and on the income of workers and their families after workers retire, become disabled, or die.

Slowing the growth in spending for Social Security would be one way of resolving its projected shortfall, as well as a way to increase national saving. Three broad approaches for doing so have received considerable attention. First, policymakers could alter the formula used to calculate benefits for newly eligible Social Security beneficiaries to reduce their initial benefits. Second, they could increase the normal retirement age—the

1. Board of Trustees, Federal Old-Age and Survivors and Disability Insurance Trust Funds, *1997 Annual Report* (April 24, 1997), based on their intermediate assumptions regarding future economic and demographic trends. Their just-released *1998 Annual Report* moves back the depletion date by three years but is otherwise similar to the 1997 report.

age at which workers become eligible for full benefits. Third, they could reduce the cost-of-living adjustments beneficiaries receive. Further, they might combine any of those approaches with privatization plans that would require workers to contribute to mandatory individual investment accounts. Specific options to illustrate both the strengths and weaknesses of the major approaches are presented below, along with estimates of the savings that would result from implementing those options.

If policymakers decide to cut Social Security benefits, equity and efficiency argue for announcing those changes long before they would take effect. People view entitlement programs for the elderly and the disabled as long-term commitments between the government and the citizenry, and they have based their behavior on current provisions. Deciding soon on any future changes in such programs and making gradual changes in spending and tax policy would give people more time to plan and adjust.

The Congress set a precedent when it amended the Social Security system in 1983. When policymakers raised the age at which full retired-worker benefits begin, the first workers affected by that change were then only 45 years old. By announcing the change so far in advance, the government gave them the opportunity to take that new policy into account when planning for retirement.

Background

Social Security is, by far, the federal government's largest income redistribution program, playing a critical role in supporting the standard of living of its beneficiaries. In 1996, the elderly (those 65 and over) received about 40 percent of their cash income from Social Security. Reliance on Social Security was especially high among those elderly whose cash income was relatively low. Families with at least one member collecting Social Security benefits and who were in the lowest income quintile of elderly families received almost 90 percent of their income from Social Security, compared with only 25 percent for those in the highest income quintile.

Most of the discussion in this chapter focuses on Old-Age and Survivors Insurance (OASI), the part of the Social Security system that provides benefits to retired workers, members of their families, and their survivors. The other part, Disability Insurance (DI), funds disabled workers younger than the normal retirement age and their dependents. OASI is by far the larger program: last year it accounted for almost 90 percent of spending for the two combined (referred to as OASDI). Benefits for both parts are financed primarily from payroll taxes paid by workers and employers on earnings covered by the OASDI program. The combined tax rate for 1998 is 12.4 percent of covered earnings—up to $68,400 annually.

Social Security Trust Funds

Revenues received from Social Security payroll taxes and part of the revenues collected by the Treasury from taxing certain Social Security benefits are deposited in trust funds for the OASI and DI programs. (The remaining revenues from taxing benefits go into Medicare's Hospital Insurance Trust Fund.) Social Security benefits, administrative expenses, and other authorized expenditures are paid from the OASI and DI funds.

Those trust funds function primarily as accounting mechanisms to track receipts and spending and to monitor whether enough revenue from the designated sources is being raised to pay for benefits projected under current law. At the end of fiscal year 1997, the funds held more than $600 billion in assets, most of which was invested in special interest-bearing federal securities. The two trust funds are currently running a combined surplus of about $100 billion a year. By 2008, the annual Social Security surplus will approach $200 billion. Those surpluses will start to shrink rapidly, however, when the baby boomers begin to retire. According to the intermediate projections used by the funds' trustees in their 1997 report, the funds will be exhausted in 2029. In their 1998 report, the trustees changed that date to 2032, largely because of better actual and expected economic performance.

The trustees also conclude that the funds will not be in close actuarial balance over the next 75 years. They express the size of the long-term imbalance by estimating the size of the increase in the payroll tax rate that would be needed to bring the funds into balance. That measure—2.2 percent of taxable payroll—is conceptually similar to the measure of the fiscal gap in the

federal budget used in the previous chapter, except that it is expressed as a percentage of taxable payroll rather than of GDP. If the payroll tax was raised 2.2 percent, the additional revenue would build up a larger surplus in the trust funds that would be sufficient to pay projected benefits at least through the end of the 75-year projection period. Likewise, if the larger surpluses were not offset by larger deficits in the rest of the federal budget, they would contribute to an increase in national savings.

Program History

The history of Social Security from its enactment in 1935 until the mid-1970s was largely one of program expansion. Payroll tax rates and the base on which those taxes were levied increased as needed to keep up with the legislated increases in eligibility and benefit levels. The 1939 amendments broadened eligibility to include spouses and survivors. Disabled workers were added in 1956. Substantial increases in benefit levels were enacted in 1950 and 1972 and smaller increases in several other years. The 1972 legislation also introduced automatic cost-of-living adjustments (COLAs). The program was initially financed with a tax rate of 2 percent of the first $3,000 of annual earnings (split equally between the employer and the employee). By 1974, the tax rate had increased to nearly 10 percent of the first $13,200 of earnings.

In contrast, since the mid-1970s, policymakers have had to deal with various short-term and long-term financial problems faced by the program. The Social Security Amendments of 1983 contained some of the most significant changes.[2] Those changes were in response to projections that the trust funds would not have enough money to continue paying current Social Security beneficiaries the amounts due that year and that the program faced a large, long-range deficit as well. Social Security outlays were reduced in the short run primarily by delaying a scheduled COLA for six months. The biggest reduction in long-run costs came from gradually raising the age at which retired workers could receive full benefits from 65 to 67. Lawmakers raised Social Security revenues largely by moving up the effective dates for the already scheduled increases in the payroll tax, introducing the income taxation of Social Security benefits, and covering new federal employees and all employees of nonprofit organizations.[3]

Major Issues

U.S. workers have come to expect that when they retire or become disabled, Social Security will provide them with income that will replace a significant portion of their previous earnings. They also expect that Social Security benefits will be available for their survivors. The Congress will need to decide what the Social Security system should attempt to accomplish and what legislative changes will be needed to ensure that the system achieves those goals for the retirement of the baby boomers.

The current design of the Social Security system represents a trade-off between ensuring an adequate level of benefits to even the poorest beneficiaries and equitably distributing benefits so that workers who have paid more taxes for Social Security receive more in benefits. The progressive benefit structure reflects those dual goals. Retired workers with a history of low wages receive benefits that replace a higher percentage of their preretirement earnings than do other retired workers. Nonetheless, workers who earned higher wages receive higher benefits.

Policymakers will need to consider the potential effect on people's incentive to work and save when redesigning the Social Security system. For example, lower benefits for retired workers could encourage them to remain in the labor force longer, particularly if the age of earliest eligibility was raised. Reductions in ben-

2. For more detailed information about the 1983 legislation, see John A. Svahn and Mary Ross, "Social Security Amendments of 1983: Legislative History and Summary of Provisions," *Social Security Bulletin*, vol. 46, no. 7 (July 1983), pp. 3-48.

3. Two previous laws that also significantly scaled back the growth of benefits are described in House Committee on Ways and Means, *1996 Green Book* (November 4, 1996), pp. 80-83. The 1977 amendments changed the method by which initial benefits were calculated; payroll tax rates and the earnings base were increased as well. The Omnibus Budget Reconciliation Act of 1981 made further reductions in Social Security benefits, the largest of which was the elimination of family benefits for postsecondary students.

efits could also encourage workers to save more.[4] If a change in the design of the system resulted in more work effort or more saving (whether by the government or by the private sector), the nation's total income would rise. Such a change would improve the nation's ability to cope with the aging of the U.S. population.

The 1994-1996 Advisory Council on Social Security, appointed by the Secretary of Health and Human Services, struggled with the issue of how to improve the long-range financial status of the Social Security program and failed to reach a consensus. Part of the reason for disagreement was that members held divergent views about the role Social Security should play in the future.[5]

Much of the debate within the council reflected members' differing views about the extent to which the government should be responsible for the well-being of workers and their families once they have retired or become disabled. At least two competing views emerged. One envisioned keeping the Social Security benefit structure essentially as it is, continuing to provide the largest component of many retirees' income. The other proposed a smaller public system for future workers in combination with alternate sources of retirement income, such as private pensions, individual retirement accounts, and other savings.[6]

Many backers of a smaller public system would pair a reduction in the Social Security program with the establishment of mandatory individual investment accounts owned and directed by the workers themselves. Two of the three competing plans offered by members of the council include that feature (see Box 3-1).

"Privatizing" Social Security

Most privatization plans contain at least four elements:

- Reducing Social Security benefits below the amounts specified under current law;
- Requiring (or at least giving a strong financial incentive to) workers to put a certain percentage of their earnings into individual investment accounts;
- Allowing workers to decide for themselves how their accounts are invested; and
- Prohibiting withdrawal of money from those accounts until the worker reaches a certain age.

Although the Congress could require workers to establish individual investment accounts without reducing Social Security benefits, the policy proposals are invariably linked. Privatization plans would reduce the long-term imbalance between revenues earmarked for the Social Security program and the program's projected costs to the extent that the plans either cut benefits or raised revenues. The individual investment accounts themselves would not directly affect Social Security. They could, however, help offset the loss in income to retired workers and their families that would result from reductions in Social Security benefits. The magnitude of those reductions and how they would be achieved differ from plan to plan.

Privatization proposals raise a number of issues concerning their potential consequences for the economy and for the income of workers and their families after the workers retire, become disabled, or die. Proponents of plans to replace all or part of future Social Security benefits with income from mandatory defined contributions contend that doing so would increase national income and enable workers to receive much higher returns on their investments than they could get by putting their money into the Social Security system. Opponents argue that those claims are exaggerated and that even partial privatization could subject workers, particularly low-wage workers, to unnecessary risks.

4. Much has been written about the effect of Social Security on labor supply and private saving, and on the extent to which changes in Social Security provisions might alter people's decisions about when to retire and how much to save. That literature is reviewed in Michael D. Hurd, "Research on the Elderly: Economic Status, Retirement, and Consumption Saving," *Journal of Economic Literature*, vol. 28 (June 1990), pp. 565-637. See also 1994-1996 Advisory Council on Social Security, "Report of the Technical Panel on Trends and Issues in Retirement Savings," *Report of the 1994-1996 Advisory Council on Social Security*, vol. 2 (January 1997).

5. Until recently, the Social Security Act required that an advisory council be established every four years to review the status of the Social Security and Medicare trust funds and their relationship to their long-term commitments. That requirement ended when the Social Security Administration became an independent agency.

6. For a fuller discussion of the council's separate views, as well as a comprehensive survey of options for reducing the actuarial imbalance in the Social Security system and the presentation of a framework for assessment, see *Report of the 1994-1996 Advisory Council on Social Security*, vols. 1 and 2 (January 1997).

Box 3-1.
The Advisory Council's Plans for Balancing the Trust Funds

In January 1997, the Advisory Council on Social Security, appointed by the Secretary of Health and Human Services in 1994, issued its final report.[1] The major focus of the council was to develop recommendations for improving the long-range financial status of the program. The council used the projected actuarial balance of the trust funds as a key indicator of the financial health of the Social Security system and as a benchmark against which to estimate the effects of its plans on the long-range financial status of the program.

The 13 members of the council were unable to agree on a single set of policy recommendations, but instead proposed three separate plans: the "maintain benefits" (MB) plan, the "individual accounts" (IA) plan, and the "personal security accounts" (PSA) plan. Some of the specific provisions in each plan would reduce the growth in spending by changing Social Security benefits. Other provisions involve changes in the amount of revenues credited to the trust funds or the investment policies for the funds.

The partial privatization proposals in the IA and PSA plans have received the most public attention. Both plans would cut future Social Security commitments by the federal government and replace them with mandatory investment accounts akin to defined contribution plans in the private sector.

The actuaries of the Social Security Administration estimated that each of the council's three plans would improve the actuarial balance of the Social Security trust funds, although some of the specific provisions might not help reduce the federal deficit nor improve the capability of the economy to deal with the expected sharp increase in the number of beneficiaries. The IA and PSA plans would each restore the actuarial balance of the funds over the 75-year period ending in 2070. The MB plan would restore that balance only if it included investing part of the trust funds in equities.

Maintain Benefits Plan. The MB plan modifies benefits only slightly by increasing the number of years on which a worker's average earnings are based, thereby reducing initial benefits. In addition, more revenue would come from taxes on benefits and wages. The portion of the revenue from taxing benefits now credited to the Hospital Insurance Trust Fund would be redirected to the Social Security trust funds. Payroll tax rates would rise beginning in about 2045; the combined tax rate would rise from 12.4 percent to 14.0 percent of covered payroll. The authors also called for serious consideration of a plan to invest up to 40 percent of the trust fund's assets in equities rather than Treasury securities.

Individual Accounts Plan. The IA plan reduces benefit payments by about 16 percent by 2030 and requires workers to pay 1.6 percent of earnings up to the Social Security limit into new, mandatory individual retirement accounts beginning in 1998. Those accounts would be held by the government as defined contribution accounts for investment in equity index funds or other approved options and would be annuitized on retirement. The plan cuts benefit payments primarily by reducing benefits for upper-income workers and raising the normal retirement age.

Personal Security Accounts Plan. The PSA plan phases out the current Social Security benefit formula and ultimately replaces it with a smaller, flat benefit for future retirees who will be under age 55 in 1998. The monthly benefit would be set at approximately $410 in 1996 dollars and indexed to keep pace with average wage growth. Five percentage points of the worker's payroll tax would be redirected to new personal security accounts to be invested in financial instruments widely available in the financial markets and would be held outside the government for retirement purposes. Workers 55 or older in 1998 would continue to pay full payroll taxes and be covered under the existing system. Workers between 25 and 54 would receive a combination of their accrued benefit under the existing system and a share of the flat benefit under the new system in addition to payments from their personal security account. The plan would impose a transition tax of 1.52 percent of covered earnings, along with borrowing from the Treasury, to cover the costs of moving from the old system to the new one.

1. 1994-1996 Advisory Council on Social Security, *Report of the 1994-1996 Advisory Council on Social Security* (January 1997).

The validity of each side's argument depends on the details of the specific proposal under consideration.

Designing a Privatization Plan

There are two basic approaches to privatization. One approach, illustrated by the individual accounts (IA) plan discussed in Box 3-1, adds a new mandatory payroll contribution to the existing Social Security payroll tax to fund workers' investment accounts. At the same time, that approach eliminates the projected long-term imbalance between Social Security costs and revenues through the types of benefit reductions described below.

The other approach, illustrated by the personal security accounts (PSA) plan, diverts some of the existing payroll tax into individual investment accounts, requiring larger reductions in Social Security benefits to eliminate the projected long-term imbalance. As with the first approach, those mandatory investment accounts would supplement the remaining Social Security program.

Under either approach, the designers of a privatization plan need to specify, among other things, the options workers would have for investing their money. Would workers be given a menu of investment options from which to choose, or would they be free to find their own opportunities? For example, the IA plan would offer workers a limited range of investment options akin to those offered federal employees who participate in the government's Thrift Savings Plan. The PSA plan would permit a much wider range of options, akin to those available to workers who hold individual retirement accounts.

Similarly, the designers need to specify the conditions under which the funds in the investment accounts could be withdrawn. For example, would there be any circumstances under which withdrawals would be permitted before age 62? Could workers withdraw their accounts as lump sums, or would they be required to annuitize them? What provision would be made for workers' spouses? The answers to those and other design questions are important for the assessment of a proposal's potential impact on the economy and on workers and their families.

But a major "transition problem" looms for any proposal that would divert some of the existing payroll tax into individual accounts. The Social Security system operates mostly on a pay-as-you-go basis in which current payroll taxes pay for current benefits. The transition problem occurs when any diversion of taxes into individual accounts reduces the funds available to pay people already receiving Social Security benefits or the future benefits of workers who are currently contributing to the system. Either the commitments made to current beneficiaries and to workers who have already paid into the system would need to be scaled back, or some workers would need to pay both for their own retirement and for current beneficiaries.

Potential Effects

Supporters claim that privatization would lead to higher national income because of an associated rise in the rate of national saving. Increased saving would result in more investment, which in turn would enable the economy to grow at a faster pace.

Whether national saving would increase as a result of privatization depends on the specific elements of the plan and on how people respond to it. Changes in national saving could stem from changes in saving by the government sector, by the private sector, or both. If a proposed change reduced the growth in Social Security benefits, government saving would increase unless it was offset by greater tax reductions or by added spending for other programs.

The potential effects of a privatization proposal on saving by the private sector depend on the reaction of workers to the changes in Social Security and to the mandate imposed. With or without the introduction of mandatory investment accounts, prudent workers will save more if their future Social Security benefits are cut. A key question for privatization is whether the requirement to set aside a certain percentage of their earnings would induce more workers to save additional amounts. Preliminary analysis of the IA and PSA plans indicates that both proposals would result in additional national saving, but the magnitude of that saving is difficult to predict.

How workers will fare in retirement under a privatization plan also depends on the details of the plan and is even more difficult to predict. The current Social Security system provides inflation-indexed defined benefits for retired workers and their families, guaranteed by the federal government. In effect, the financial risks associated with making good on those commitments are borne collectively by future workers.

A likely outcome of privatization would be increased uncertainty and variation in retirement income. That uncertainty results from not being able to predict how workers would allocate their investment portfolio or what return they would get on each portion of their portfolio. On average, the rate of return to individual accounts would most likely exceed the rate of return from Social Security. But through bad luck or poor judgment, some workers would do much worse than average; others would do much better.

Also, the current Social Security system includes a complicated benefit structure that favors workers with low earnings over workers with high earnings, whereas a system in which benefits were based purely on the proceeds from investments would not. Proposals such as the IA and PSA plans preserve the redistributive aspect of the current system by reducing the growth in Social Security benefits for workers with high earnings by much more than for those with low earnings. But other features of the current system—such as the protection afforded workers who become disabled before they have the opportunity to build up substantial individual investment accounts—would be more difficult to preserve.

Approaches and Illustrative Options for Slowing the Growth in Social Security

To reduce the projected growth in spending for Social Security, legislation needs to curtail commitments made under current law. All of the approaches examined below have been proposed in recent years. The specific options were selected to illustrate both the strengths and weaknesses of those approaches as well as tradeoffs the Congress would face in designing a specific policy. The saving estimates, provided by the Social Security Administration's Office of the Actuary, are intended to indicate relative magnitudes of change. They are based on the intermediate economic and demographic assumptions used in the 1997 annual report of the trustees.

Reduce Initial Benefits

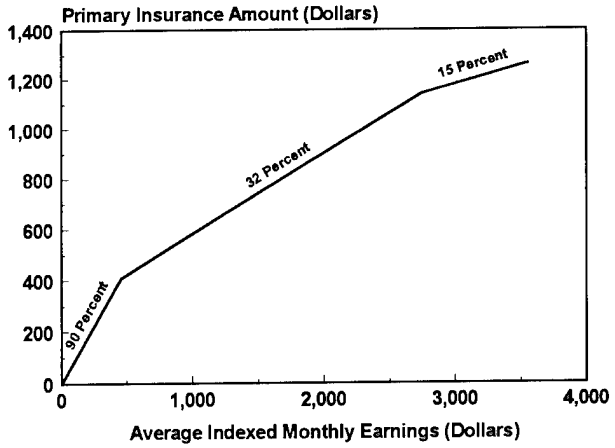
The most straightforward method of reducing the growth in Social Security spending is to lower the rates at which benefits replace preretirement earnings. The immediate effect of that approach would be to reduce benefits going to newly eligible beneficiaries. The full savings of a specified reduction would not be achieved until all of the beneficiaries whose initial benefit had been determined under the previous formula were no longer receiving benefits.

Current law bases the benefits of retired (and disabled) workers on their past earnings, expressed as an average level of earnings over their working lifetime—their average indexed monthly earnings (AIME). From that average, a formula calculates a worker's primary insurance amount (PIA). The Social Security Administration then adjusts the PIA for a number of factors, such as reductions for early retirement, credits for later retirement, and increases for inflation.

The Social Security Administration bases a worker's AIME on wages in covered employment (up to the taxable maximum), with some adjustments. Earnings on which retired workers and their employers paid Social Security taxes are indexed to compensate for past inflation and real wage growth. To convert the AIME to the PIA, the Social Security Administration applies a progressive formula in which the PIA replaces a larger proportion of preretirement earnings for people with low average earnings than for those with higher earnings.

The following formula is used for workers who reached 62 in 1997: PIA equals 90 percent of the first $455 of the AIME, plus 32 percent of the AIME between $455 and $2,741, plus 15 percent of the AIME over $2,741 (see Figure 3-1). Those thresholds at which the percentage of the AIME is replaced by the PIA, known as "bend points," are indexed to average annual earnings for the labor force as a whole. Consequently, as wages rise over time, average replacement rates remain constant.

Figure 3-1.
Primary Insurance Amounts in Relation to Average Indexed Monthly Earnings Under Current Law for Workers Who Turned 62 in 1997



SOURCE: Congressional Budget Office.

NOTE: For workers in this cohort who retired at 65 (in 2000), the primary insurance amount would be based on the formula illustrated in this figure, with the amounts increased by the cost-of-living adjustments effective in 1997, 1998, and 1999.

In general, workers receive 100 percent of their own PIA in benefits if they first receive benefits at the normal retirement age, currently 65, and less if they retire earlier. For example, a worker who retires at 62 receives a permanent 20 percent reduction. The size of that reduction is intended to be actuarially fair: the present value of the reduced monthly benefits that average workers could expect at 62 is similar to the present value of the full monthly benefits they could expect by delaying initial benefits until the normal retirement age. Similarly, workers who delay collecting benefits beyond their normal retirement age receive a delayed retirement credit to compensate them for the reduction in the length of time that they will receive benefits, although that credit will not reach its actuarially fair level of 8 percent a year for another decade.[7]

Workers who had average earnings throughout their career and retired at 65 in 1997 were eligible for an annual retired-worker benefit of about $11,200, which replaced 44 percent of their previous annual earnings. Because the benefit structure is progressive, the replacement rate is inversely related to past earnings. For example, workers who earned 45 percent of average earnings each year would receive about $6,800, replacing about 59 percent of their past earnings. Workers who always earned the maximum taxable amount ($65,400 in 1997) would receive about $16,000, replacing about 25 percent of their past covered earnings.

Under current law, workers with average earnings who retire at 65 after the turn of the century will be eligible for higher (inflation-adjusted) benefits than those paid to today's average earner, but those benefits will replace a smaller percentage of their past earnings. For example, the Social Security Administration projects that workers with average earnings who retire in 2030 will receive about $12,300 a year (in 1997 dollars) which will replace 37 percent of their earnings during the preceding year.[8] Although that replacement rate is well below the average in recent years, it is similar to the percentage of earnings that was replaced for workers who retired at 65 in the late 1960s.[9]

The scheduled increase in the normal retirement age, which becomes 67 for workers born in 1960 or later, will produce most of the projected decline in the replacement rate. Thus, workers who retire in 2030 at 65 will receive a permanent reduction in their benefits of about 13 percent because of the actuarial reduction for early retirement. If they wait until 67 to retire, their replacement rate will be 42 percent, not far below the current rate for workers retiring at 65.

The major advantage of using an across-the-board reduction in replacement rates to achieve savings is that it would otherwise preserve the existing benefit structure. If policymakers announced the change in the formula far in advance of the date it would take effect, workers could try to adjust their retirement and saving plans accordingly. The major disadvantage of that approach is that some people, such as workers who become disabled and eligible for DI, would not be able to

7. Starting with beneficiaries born in 1943, each year delayed beyond the normal retirement age (which will be 66 for that cohort) will add 8 percent to their retired-worker benefits. The delayed retirement credit for workers reaching the normal retirement age in 1997 (65) is only 5 percent.

8. Board of Trustees, *1997 Annual Report*, p. 186.

9. Robert J. Myers, *Social Security*, 4th ed. (Philadelphia: Pension Research Council and University of Pennsylvania Press, 1993), p. 363.

change their behavior and would therefore receive lower benefits than they would have under current law.

By way of illustration, consider a specific option, starting in 1998 and ending in 2032, that would reduce by 0.5 percent a year the benefits of each successive cohort of workers who became eligible for Social Security's disability or retired-worker benefits. Under that option, workers becoming eligible in 2010 would receive about 94 percent of their benefits under current law, and those becoming eligible in 2032 and thereafter would receive about 84 percent. Workers who had average earnings, became eligible for benefits in 2030, and retired at 65 would receive annual benefits of roughly $10,700 (in 1997 dollars)—about $500 below the amount that similar workers retiring at 65 received in 1997.

Any savings realized in a specific year would depend on the composition of beneficiaries by year of eligibility. The Social Security actuaries estimate that this option would achieve a 10 percent reduction in 2030 and, ultimately, a 16 percent reduction in Social Security expenditures, once all beneficiaries were subject to the full reduction in replacement rates. The Social Security system could realize larger savings, of course, if the replacement rates of newly eligible beneficiaries were reduced further after 2032.

A variation of that option (included in one of three sets of options presented by the advisory council) would cut the replacement rates in only the second and third brackets of the benefit formula. That is, beneficiaries would continue to receive 90 percent of their average earnings up to the first bend point. That variation, designed to shield workers with histories of relatively low earnings, would save less money unless larger reductions were made in the second and third brackets.

Raise the Retirement Age

Under current law, the age at which a worker becomes eligible for full retirement benefits (the normal retirement age, or NRA) is 65 and will gradually increase to 67. For workers born before 1938, the NRA is 65. The NRA increases in two-month increments for workers thereafter, reaching 66 for workers born in 1943. It remains at 66 for workers born from 1944 through 1954. It then begins to rise again, in two-month increments, reaching 67 for workers born in 1960 or later.

Members of Congress and others have recommended that the change to an NRA of 67 be accelerated and that the NRA be further increased thereafter. Proponents point out that people age 65 today live longer than was the case in the early days of the Social Security system, that life expectancy is projected to continue to increase, and that that otherwise favorable development will raise the cost of the program.[10]

Two specific options to raise the retirement age illustrate that approach (see Table 3-1). The first would speed up the transition to 67 and then further increase it to keep up with future increases in life expectancy. The NRA of workers born in 1949 would be 67. Thereafter, the NRA would increase by one month every two years, reflecting projected growth in the ratio of life expectancy at the NRA to potential work-years. For example, the NRA would be 68 for workers born in 1973 and 69 for workers born in 1997. Workers would still be able to begin receiving benefits at 62, but the amounts would be reduced accordingly.

The second option would also accelerate the transition to 67 but would continue increasing the NRA by two months a year until it reached 70 for workers born in 1967. Thereafter, it would raise the NRA from 70 by one month every other year. As with the first option, workers would still be able to begin receiving reduced benefits at 62.

Each option would produce substantial savings in relation to projected spending levels under current law. The first option would reduce outlays by about 3 percent in 2030 and 8 percent in 2070. The second option would reduce outlays by about 8 percent in 2030 and 18 percent in 2070.

For most purposes, such an approach to cutting the growth in benefits is equivalent to cutting replacement rates. To arrive at that equivalence, compare the reductions from PIAs that workers who begin receiving

10. Board of Trustees, *1997 Annual Report*. The intermediate assumptions in the report are that in 2030, men who reach 65 will live an additional 17.0 years and women an additional 20.4 years. In 1997, the life expectancy of men age 65 was 15.6 years and that of women was 19.2 years. In 1940, the life expectancies of men and women age 65 were only 11.9 years and 13.4 years, respectively.

retired-worker benefits at age 65 would get under current law and under the two options. A worker retiring at 65 in 2038 would receive about 13 percent less in benefits under current law, 20 percent less under the first option, and more than 30 percent less under the second option than if he or she had waited until the normal retirement age.

However, benefits of workers who qualify for Disability Insurance would not be reduced under either of those options. Workers would have a somewhat stronger incentive to apply for DI benefits in order to receive higher monthly benefits. Under current law, for instance, workers retiring at 62 in 2011 would receive 75 percent of their PIA; yet if they qualified for DI benefits, they would receive 100 percent. Under both of the options for increasing the normal retirement age discussed above, workers retiring at 62 in 2011 would receive only 70 percent of their PIA but would still receive 100 percent if they qualified for DI benefits.

Finally, some proposals for increasing the normal retirement age would raise the earliest age of eligibility for retired-worker benefits as well. Currently, more than two-thirds of retired-worker beneficiaries choose to begin receiving benefits before 65. Increasing the earliest age of eligibility most likely would increase the size of the workforce as some workers delayed retirement, thereby adding to the nation's economic output. Moreover, those workers, once they retired, would have higher benefits because they would incur a smaller actuarial reduction or none at all. Opponents of raising the earliest age of eligibility argue that some of the workers who begin receiving benefits at 62 have little if any

Table 3-1.
Increases in Normal Retirement Age Under Current Law and Two Illustrative Options

Year of Birth	Year in Which Age 62 Would Be Reached	Year in Which Age 65 Would Be Reached	Normal Retirement Age	Reduction for Retirement at Age 65 (Percentage of PIA)
		Current Law		
1943	2005	2008	66	6.67
1960	2022	2025	67	13.33
		First Option[a]		
1943	2005	2008	66	6.67
1949	2011	2014	67	13.33
1973	2035	2038	68	20.00
1997	2059	2062	69	25.00
		Second Option[a]		
1943	2005	2008	66	6.67
1949	2011	2014	67	13.33
1955	2017	2020	68	20.00
1961	2023	2026	69	25.00
1967	2029	2032	70	30.00
1991	2053	2056	71	34.50

SOURCE: Congressional Budget Office based on information provided by the Social Security Administration, Office of the Actuary.

NOTE: PIA = primary insurance amount.

a. The normal retirement age (NRA) of workers who turn 62 in 2011 would be 67 under both options. After 2011 under the first option, the NRA would increase by one month every two years. Under the second option, the NRA would increase by two months a year until it reached 70 in 2029 and then would increase by one month every two years.

choice—for example, because the jobs they hold are especially physically demanding. Opponents also contend that many of those early retirees have no pensions or other sources of income.

Reduce the Cost-of-Living Adjustments

Each year, the Social Security Administration adjusts monthly benefits by the increase in the consumer price index (CPI). To give an example, the 2.1 percent cost-of-living adjustment effective for December 1997 was based on the increase in the CPI for urban wage earners and clerical workers between the third quarter of 1996 and the third quarter of 1997. The basic benefit amount is indexed by the increase in the CPI, beginning when a worker becomes eligible for Social Security benefits. For retired-worker benefits, indexing starts at 62.

Another way of reducing the growth in Social Security benefits is to reduce the automatic COLA. Some policymakers suggest that the law be changed to provide a COLA equal to the increase in the CPI minus a specified number of percentage points. To illustrate that approach, Social Security actuaries estimated the effect of determining the COLA based on the increase in the CPI less 1 percentage point for December 1998 and thereafter.[11] Doing so would reduce outlays by about 10 percent in 2030 and slightly more in future years.

Reducing the automatic COLA for Social Security benefits has been widely discussed as a way of achieving considerable savings. Many analysts feel that the CPI overstates increases in the cost of living, but they debate the magnitude of the overstatement and what should be done about it. In 1996, the Advisory Commission to Study the Consumer Price Index (known as the Boskin Commission) estimated the size of the upward bias to be about 1 percentage point a year.[12] If that is the case, then Social Security beneficiaries have been receiving increases in benefits beyond what is necessary to keep up with inflation. But that estimate is not universally accepted. Furthermore, since the commission prepared its report, the Bureau of Labor Statistics has made changes in the way the CPI is calculated that address several of those concerns.

If the CPI overstates increases in the cost of living for beneficiaries, then policymakers could reduce the COLA by a commensurate amount without lowering real benefits to beneficiaries below what they received when they became eligible for the program. Compared with an equivalent across-the-board reduction in replacement rates (or an equivalent increase in the normal retirement age), the people whose benefits would be most affected by reducing COLAs would be the oldest beneficiaries and those who initially became eligible for Social Security on the basis of disability. Alternatively, lawmakers might choose to reduce the COLAs of only those beneficiaries whose benefits or incomes were above specified levels, but that would reduce the savings. (Some beneficiaries with low incomes and few assets would receive Supplemental Security Income (SSI) benefits, which would offset some or all of the reduction in their Social Security benefits; the increased spending for SSI would help those beneficiaries, but it would also directly reduce the budgetary savings from this option by a small amount.)

The impact of even a relatively small reduction in COLAs would be quite large for future older beneficiaries whose benefits would reflect the cumulative effects of a series of smaller COLAs. For example, if benefits were adjusted by 1 percentage point less than the increase in the CPI every year, retired workers (or their survivors) at 74 would incur an 11 percent reduction in benefits compared with what they would have received under current law; at 84 they would get a 19 percent reduction; and at 94 they would get a 27 percent reduction.

Whether or not the real value of the Social Security benefits received by older beneficiaries would then be below what it was when they first became eligible, their benefits would fall relative to those of new beneficiaries. That decline would occur because initial benefits would continue to be based on a formula in which past earnings are indexed to compensate for growth in nominal wages, which is the sum of inflation and real wage growth. Under current law, each new group of beneficiaries that begins receiving benefits at the normal re-

11. As under current law, no COLA would be made in years in which there was no increase in the CPI. Any reductions in the modified index would be accumulated until a net increase was achieved in a future year.

12. Advisory Commission to Study the Consumer Price Index, *Toward a More Accurate Measure of the Cost of Living*, Final Report to the Senate Finance Committee (December 4, 1996).

tirement age receives a slightly higher average benefit than the group that became eligible the previous year, reflecting the increase in real wages. If policymakers reduced COLAs by 1 percentage point, the gap between consecutive age groups would widen accordingly.

Other Approaches

Carrying out any of the options presented above would eventually reduce the amount of Social Security benefits (in relation to current law) for the majority of beneficiaries. Other approaches that have received attention in recent years would achieve savings by reducing or eliminating benefits for specific groups of beneficiaries. To achieve comparable savings, policymakers would have to impose much deeper reductions on those beneficiaries. Combining several options affecting specific groups could produce more significant savings.

In some cases, the number of beneficiaries affected would be too small to have much impact on total spending, even if their benefits were eliminated. For example, lowering the benefit to spouses from one-half to one-third of the retired worker's PIA would reduce Social Security outlays by less than 2 percent because most spouses are eligible for retired-worker benefits themselves.

Another approach to reducing expenditures for Social Security (as well as for other programs) is to reduce or eliminate benefits going to people in middle- and upper-income families, although that could create a disincentive for families to save or to earn other income. In principle, Social Security benefits could be cut by any desired percentage by reducing benefits as beneficiaries' income rose, denying benefits to people with income above specified thresholds, or increasing the taxes on benefits. CBO examined specific options for doing so in a separate report.[13] One option described in that report would pare Social Security and other entitlement benefits as the total family income of the beneficiaries rose above $40,000. That option, proposed by the Concord Coalition, would reduce projected spending for Social Security benefits by about 7 percent in 2002. Making Social Security benefits fully subject to the individual income tax would increase revenue by a similar amount.

13. Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (March 1997), pp. 288-291.

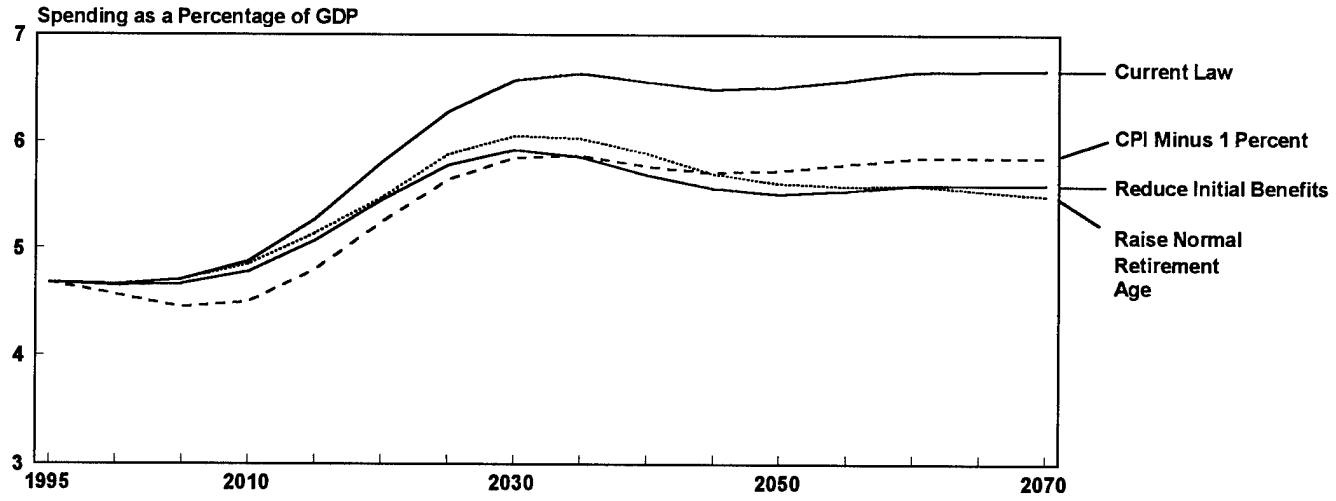
Conclusions

Reducing the growth in spending for Social Security would require cutbacks in the commitments that have been made under current law. Phasing in a reduction in initial benefits, increasing the normal retirement age, or reducing future cost-of-living adjustments could each produce substantial savings while still preserving the basic benefit structure of the Social Security system. But each approach would leave beneficiaries, as a group, worse off than they would be if their benefits had not been cut. The last approach would leave initial benefits untouched but would have the largest effects on the benefits of very elderly beneficiaries and those who began receiving benefits at an early age because of disability.

Each of the options used to illustrate those approaches would slow the growth in Social Security spending. But not one, by itself, would be enough to prevent outlays for that program from becoming a significantly larger share of national income once the baby-boom generation retires. Specific options for phasing in a 16 percent across-the-board reduction in initial benefits, increasing the normal retirement age to 70 for workers born in 1967 (and later for subsequent cohorts), and reducing future COLAs by 1 percentage point would each cut projected spending in 2030 to about 6.0 percent of GDP, rather than the 6.6 percent projected under current law (see Figure 3-2).

Moreover, each option would improve the long-term financial status of the Social Security system, although not one, by itself, would keep the Social Security trust funds solvent. The Social Security actuaries project that the 75-year imbalance in the combined OASDI trust funds would be reduced from about 2.2 percent of taxable payroll under current law to between 0.8 percent and 1.1 percent under each option, based on the intermediate assumptions used in the 1997 report of the program's trustees. Likewise, those options roll back by eight years the year in which the trust funds would run out of money under the option for phasing in an across-the-board reduction in initial benefits and by five years under the option for increasing the normal re-

Figure 3-2.
Illustrative Options for Reducing Growth in Social Security Outlays



SOURCE: Congressional Budget Office based on estimates provided by the Social Security Administration, Office of the Actuary, March 3, 1998.

NOTES: These estimates are based on the intermediate assumptions used in the 1997 report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. Data are plotted at five-year intervals.

CPI = consumer price index.

tirement age. The COLA option would extend the projected exhaustion date the longest—by 17 years—because it would achieve more savings in the early years. Two or more options could be used together, of course, to achieve larger savings and to restore the long-term solvency of the trust funds, but that would further reduce the income of beneficiaries.

Proposals to partially privatize Social Security raise a number of difficult issues that the Congress would need to address. The introduction of mandatory investment accounts would not reduce the growth in spending for Social Security, although it might help offset the income losses that retired workers and their families would otherwise incur from those options. It might also increase national saving by requiring some workers to save more than they otherwise would. Replacing part of Social Security with individual accounts would shift some financial risk, now borne collectively, onto the workers themselves, but at the same time it would offer workers the potential to substantially increase their income in retirement.

Chapter Four

Slowing the Growth in Medicare

Medicare, together with Social Security, is generally credited with having substantially improved the lives of elderly and disabled people in the United States. Through federal policies that have been in effect for many years, people have come to expect that health insurance will be available to them through the Medicare program when they retire or become disabled. Today, about 39 million people, including nearly all of the aged population in this country, have Medicare coverage.

Medicare is the second largest federal entitlement program, after Social Security. Throughout its history, the Medicare program has grown more rapidly than the economy, and its growth is expected to accelerate with the retirement of the baby-boom population. Left untreated, the budgetary problem that Medicare poses—and the difficulties involved in resolving it—will increase. By 2030, spending for Medicare, after deducting the premiums paid by enrollees, is projected to reach 5.5 percent of gross domestic product—more than double its current share. Spending on Medicaid is also likely to escalate as both programs grapple with the problem of financing long-term care for an aging population (see Box 4-1).

It is important to address the growth in spending for Medicare (and Social Security) before the boomers retire, so that any changes in those programs can be debated and agreed upon well before they are carried out. Entitlement programs for the elderly and the disabled are generally viewed as long-term commitments between the government and the citizenry, and people have based their behavior on current provisions. Deciding soon on any future changes in those programs and making gradual changes in spending and tax policies would give people more time to plan and adjust.

Approaches that would reduce the growth in spending for Medicare can be thought of as interchangeable with those affecting Social Security, in the sense that a dollar saved in either program reduces federal spending by a dollar. Further, because most Medicare enrollees are also Social Security beneficiaries and vice versa, changes in either program generally affect the standard of living of the same people. That point should be kept in mind when considering a combination of options that would reduce Social Security benefits and increase Medicare premiums or cost sharing by enrollees.

Yet the two programs also differ in an important way that could influence how program changes affect the standard of living of beneficiaries. Federal savings that resulted from changes in the Social Security program would almost certainly translate into lower benefits paid to Social Security recipients. But that outcome would not necessarily be the case for federal savings achieved by changes in the Medicare program. In particular, changes that reduced payments to health care providers would reduce providers' income but would not necessarily diminish the standard of living of enrollees, provided those lower payments were used to deliver health care services more efficiently.

Box 4-1.
The Outlook for Medicaid and Long-Term Care Spending

As in the Medicare program, federal expenditures for Medicaid will grow significantly after the baby boomers reach retirement age, but the full impact of that rise in spending will not be felt until later in the next century. Medicaid pays for a range of services for many low-income elderly and disabled people, including prescription drugs and nursing home care, that Medicare does not cover. The program also pays Medicare premiums and cost-sharing amounts for poor Medicare beneficiaries. Although those payments will start to climb as the baby boomers become eligible for Medicare, the major fiscal problem for the Medicaid program will occur around 2030—when the boomers begin to join the ranks of the "old old" (those age 85 or older) and many of them begin to need long-term care services.

The potentially large future demand for long-term care services poses a major challenge for the economy and for federal policymakers. Spending for nursing home and home health services is already rising faster than spending for other personal health expenditures, reaching almost $110 billion in 1996 (see the table below). Increases in expenditures per person have been primarily responsible for that growth.

The aging of the population virtually ensures that long-term care services will absorb a growing share of the nation's gross domestic product (GDP). If per capita expenditures continue to rise as well, the pressures on the economy will be considerably greater.

Use of Long-Term Care Services by the Elderly

Long-term care comprises a variety of medical and social services for elderly and disabled people whose disabilities prevent them from living independently. Formal long-term care services may be provided in the home or community, or in institutions for those who can no longer remain in their homes. Not all people who could use such services do so, however, because formal services are expensive if paid for out of pocket and they may be less desirable than informal help from family and friends. Indeed, the most important sources of assistance for disabled elderly people who remain in the community are live-in caregivers and networks of family helpers.[1] Despite recent rapid growth in long-term care spending, most long-term care services are still provided informally and are not, therefore, represented in expenditure data.

In 1994, 7.3 million elderly people (or about 22 percent of the elderly resident population) required assistance because of physical disabilities, cognitive impairments, or other behavioral problems. Of those people, 1.6 million were in nursing

1. Rachel F. Boaz and Jianxun Hu, "Determining the Amount of Help Used by Disabled Elderly Persons at Home: The Role of Coping Resources," *Journal of Gerontology: Social Sciences*, vol. 52B, no. 6 (1997), pp. S317-S324, as cited in Department of Health and Human Services, Agency for Health Care Policy and Research, *Research Activities*, No. 211 (Rockville, Md., December 1997), p. 11.

Growth in Expenditures for Long-Term Health Care from 1990 to 1996

	1990	1996	Average Annual Rate of Growth (Percent)
Expenditures for Long-Term Care Services (Billions of dollars)[a]	64.0	108.7	9.2
Expenditures for All Other Personal Health Care Services (Billions of dollars)	550.7	798.5	6.4
Expenditures for Long-Term Care Services per Person Age 65 or Older (Dollars)[b]	2,000	3,200	7.8
Memorandum:			
Resident Population Age 65 or Older (Millions)[c]	31.2	33.9	1.4

SOURCE: Congressional Budget Office based on data published by the Office of the Actuary of the Health Care Financing Administration, as cited in Katherine R. Levit and others, "National Health Spending Trends in 1996," *Health Affairs*, vol. 17, no. 1 (January/February 1998), pp. 35-51.

a. Long-term care services include home health and nursing home services provided by freestanding facilities. In 1996, hospital-based facilities accounted for an additional $17 billion in spending for home health and skilled nursing facility services.

b. This category is the ratio of all long-term care spending, regardless of age, to the number of people age 65 or older.

c. Estimates are from the Bureau of the Census.

homes and 2.1 million were severely disabled but still living in the community, although they probably would have qualified for admission to a nursing home. The remainder were less severely disabled but still potential users of long-term care services.

Over the next 30 years or so, the elderly population will double, a level of growth foreseen for the "old old" population as well, who are more likely to have disabilities that make them dependent on others for assistance.[2] If current rates of disability among the elderly continue, almost 8 million severely disabled elderly people are projected to be living in 2030, with a similar number having lesser dependencies. Those estimates are quite speculative, however, because of the uncertainty that surrounds future rates of disability and longevity among the elderly. If, for example, as some demographers believe, the Census Bureau's projections of the 85-or-older population are too low, the proportion of the elderly population in need of intensive long-term care support could be considerably larger. By contrast, reductions in age-specific disability rates would lessen that effect.

Another uncertainty affecting the future demand for formal long-term care services is whether informal caregivers will continue to provide as much care as they do now. Demographic changes may curtail family caregiving in the future, when more elderly people are projected to be divorced, unmarried, or childless.[3]

Financing Long-Term Care for the Elderly

The future growth of spending on long-term care for the elderly has major significance for the federal budget as well as the overall economy. Medicare and Medicaid, the two largest public financing programs, were responsible for about half of nursing home and home care expenditures for the elderly in 1995 (see the table below). Medicare pays primarily for acute medical treatment, but a rapidly growing component of Medicare spending is for home health care and skilled nursing facility (SNF) services. Although those services were originally intended to meet the short-term postacute needs of Medicare patients, Medicare's home health benefit is of increasing importance for chronic care patients. (The tables do not distinguish between postacute and chronic care services.)

Because the federal government finances more than half of Medicaid spending and all of Medicare (apart from premiums and cost sharing paid by beneficiaries), it is the primary payer for long-term care services for the elderly. That financing role has steadily expanded in the 1990s as a result, in part, of the rapid rise in Medicare spending for SNF and home health services that occurred between 1990 and 1995. By 1995, the federal government accounted for about 45 percent of all spending on nursing home and home care for the elderly and about 75 percent of public expenditures for those services.

By contrast, the role of private insurance in financing long-term care is insignificant, accounting for less than 1 percent of all spending on nursing home and home care for the elderly in 1995. About 4.4 million policies were sold between 1987 and 1995, mostly in the individual and group association markets. Without a major expansion of the market for long-term care insurance, the federal government's responsibility for financing long-term care is likely to continue to grow.

Yet the use of such services would probably rise significantly if a large percentage of the population had long-term care insurance—especially if those policies covered in-home services. Although the pressure on the federal budget might be less, long-term care spending as a share of GDP would probably continue to climb.

2. Almost one-quarter of very elderly people live in nursing homes, compared with just 5 percent of all people age 65 or older.

3. Boaz and Hu, "Determining the Amount of Help."

Expenditures by the Elderly for Nursing Home and Home Health Care, 1995 (In billions of dollars)

Source of Payment	Nursing Home	Home Health Care	Total Expenditures	Percentage Share
Medicare	8.4	14.3	22.7	25.0
Medicaid	24.2	4.3	28.5	31.4
Other Federal	0.7	1.7	2.4	2.6
Other State and Local	0.6	0.5	1.1	1.2
Private Insurance	0.4	0.3	0.7	0.8
Out of Pocket and Other Sources	30.0	5.5	35.5	39.1
All Sources	64.4	26.5	90.9	100.0

SOURCE: Office of the Assistant Secretary of Planning and Evaluation, Department of Health and Human Services, as cited in Richard Price, *Long-Term Care for the Elderly*, CRS Issue Brief IB95039 (Congressional Research Service, August 20, 1997).

Three broad approaches might be used to slow the growth in federal spending for Medicare: reducing the number of people who are eligible for the benefit, increasing the share of costs paid by beneficiaries, or reducing the total costs per beneficiary. Implementing the first two approaches, however, would go against the grain of past alterations to the program. Since its inception, changes to Medicare have *increased* the number of people eligible—by expanding the original condition for eligibility based on age to include younger people with disabilities or end-stage renal disease. In addition, other changes have generally *reduced* the share of costs paid by beneficiaries through deductibles, coinsurance, and premiums. Although efforts have been made to shrink total costs per beneficiary, primarily by cutting the rates paid to providers, those efforts have met with only limited success—indicating that stronger measures such as fundamental restructuring may be required. This chapter discusses each of the three broad approaches with a view to slowing the growth in Medicare's costs and analyzes specific illustrative options for each approach.

Background

Medicare provides federal health insurance for 39 million people who are aged or disabled, or who have end-stage renal disease. Part A of Medicare, or Hospital Insurance (HI), covers inpatient services provided by hospitals as well as skilled nursing, home health, and hospice care. Part B, or Supplementary Medical Insurance (SMI), covers services provided by physicians, limited-license practitioners (such as chiropractors and podiatrists), hospital outpatient departments, home health agencies, and suppliers of medical equipment.

Everyone who is eligible for Social Security benefits on the basis of age or disability is ultimately eligible for Medicare as well, although Medicare eligibility is delayed until age 65 for early retirees and by two years for disability beneficiaries. In addition, people who are 65 or older and not eligible for Medicare on the basis of their (or their spouse's) previous work history may enroll by paying the HI and SMI premiums.

Hospital Insurance benefits are financed primarily from current workers' payroll taxes, which are deposited in the HI trust fund. The actuarially fair HI premiums paid by the small proportion of aged beneficiaries who are not eligible for benefits on the basis of work history make up less than 1 percent of the receipts of the fund. Since 1994, a portion of the income taxes paid on Social Security benefits has also been credited to the HI trust fund, accounting for less than 4 percent of trust fund receipts. Supplementary Medical Insurance benefits are financed primarily from general revenues, although beneficiaries pay a premium to cover some of the costs. Under current law, the SMI premium is set to cover 25 percent of the expected average cost of benefits for aged enrollees each year.

Rapid increases in Medicare spending have been a concern almost from the program's inception (see Table 4-1). Spending has grown rapidly over the years

Table 4-1.
Medicare Enrollment and Spending, 1975-1995

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Spending as a Percentage of Budget	Spending Net of Premiums as a Percentage of GDP	Spending Net of Premiums as a Percentage of Budget
1975	10.8	1.2	5.1	1.1	4.6
1980	11.8	1.6	7.0	1.4	6.5
1985	12.2	2.0	8.6	1.9	8.0
1990	12.9	2.3	10.2	2.1	9.3
1995	13.6	2.6	11.2	2.3	10.0

SOURCE: Congressional Budget Office.

NOTE: Medicare began in 1966 and initially covered only the aged. Eligibility was extended to disabled people and those with end-stage renal disease in 1974.

Table 4-2.
Medicare Enrollment and Spending Projected to 2070, Under Current Law

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of Medicare Spending	Premiums as a Percentage of Enrollee Income[a]
1995	13.6	2.6	0.3	2.3	10.7	3.2
2010	15.2	3.7	0.5	3.2	12.8	5.0
2030	22.0	6.3	0.8	5.5	13.2	6.1
2050	23.1	7.0	0.9	6.2	12.2	6.0
2070	24.7	7.8	1.0	6.8	12.3	6.2

SOURCE: Congressional Budget Office.

NOTE: Under current law, Hospital Insurance Trust Fund receipts are projected to be about 1.3 percent of GDP throughout the period.

a. Enrollees' average income is assumed to increase at the same rate as GDP per capita.

as a share of both gross domestic product and the federal budget, but the baby-boomers' retirement, beginning early in the next century, will greatly accelerate that trend unless the Congress makes substantial changes in the program. The HI trust fund is not adequately funded even for the short term—before the effects of the baby boom will be felt. In fact, the latest projections indicate that the fund will be exhausted sometime between 2008 and 2010 under current law. But depletion of the HI trust fund could be avoided by transferring general revenues to it as necessary, just as is now done for the SMI trust fund. The more fundamental problem is that the expected rate of growth in Medicare spending is unsustainable over the long term since growth in GDP is projected to be slower.

The analysis in this chapter uses the Congressional Budget Office's January 1998 baseline projections through 2008. CBO also made longer-term projections for Medicare through 2070 following methods used by the program's trustees in their recent reports. Throughout this analysis, CBO makes a distinction between federal spending for Medicare and total Medicare costs, which include cost-sharing amounts paid by beneficiaries.

Sources and Magnitude of the Problem

Rapid growth in Medicare spending in relation to GDP is the result of two main factors. One is growth in the number of beneficiaries, which currently accounts for about one-sixth of the growth in spending. That growth will become more important after 2010, when the first of the baby-boom population will be eligible for benefits on the basis of age. Between 2010 and 2030, the rate of growth in enrollment is expected to average about 2.4 percent a year, whereas average growth from 1995 to 2010 will be about 1.6 percent a year. Medicare enrollment is expected to increase from about 14 percent of the population in 1995 to 22 percent in 2030. By 2070, enrollment is projected to rise to 25 percent. The second and more important factor is the rate of growth in costs per beneficiary, which has been substantially higher than the rate of growth in per capita income.

In 1995, Medicare spending was about 2.6 percent of GDP, and spending net of premiums paid by enrollees was 2.3 percent of GDP (see Table 4-2). HI trust fund receipts were about 1.4 percent of GDP.[1] Medicare spending is expected to continue to grow more rapidly than GDP will. Hence, by 2010, a year before the first of the baby-boom population reaches 65, Medicare costs are expected to reach 3.7 percent of GDP, and spending net of premiums will be 3.2 percent. By 2070, Medicare spending is projected to be 7.8 percent of GDP, and spending net of premium receipts is expected to reach 6.8 percent. Additional fed-

1. Although Medicare's trust funds also generate interest receipts, those amounts are not included because they are intragovernmental transfers that do not affect the total budget deficit or surplus.

Box 4-2.
Medicaid Supplements to Medicare

Under current law, federal and state governments incur additional health care costs for the Medicare population through Medicaid. In 1997, about 70 percent of Medicaid spending went to pay for benefits to the 15 percent of Medicare enrollees who were also receiving benefits from Medicaid. Consequently, total federal spending for health care for the Medicare population in that year was about 1.3 times the amount spent on Medicare per se, and combined federal and state spending was about 1.6 times that amount.

In 1998, the share of Medicare enrollees who also receive some benefits from the Medicaid program will increase because the Balanced Budget Act of 1997 expanded eligibility for Medicaid. There are now five eligibility categories by which Medicare enrollees may qualify for some Medicaid coverage. Medicare enrollees who are fully eligible for Medicaid have all of their cost sharing and premium expenses under Medicare covered; those enrollees also receive coverage for services that are not covered by Medicare, such as prescription drugs and long-term care. Enrollees who are not fully eligible for Medicaid but whose income is below certain levels are eligible for specified benefits under Medicaid, depending on their level of income:

- Qualified Medicare beneficiaries, or QMBs, are people with income that is below the poverty line; QMBs are eligible to have Medicaid pay all of their cost-sharing and premium expenses under Medicare.
- Specified low-income Medicare beneficiaries, or SLMBs, must have income that is less than 120 percent of the poverty level to qualify; they are eligible to have Medicaid pay their Medicare premium.
- One category of so-called qualifying individuals (QI-1s) must have income of less than 135 percent of the poverty level and may apply to Medicaid to have the program pay all of their Medicare premium.
- Eligibility for a second category of qualifying individuals (QI-2s) requires income that is below 175 percent of the poverty line. QI-2s may apply to have Medicaid pay only that portion of their Medicare premium that is the result of shifting some home health costs from the Hospital Insurance program (Part A of Medicare) to the Supplementary Medical Insurance program (Part B).

Medicaid coverage for QMBs and SLMBs is an open-ended entitlement. Coverage of QIs is on a first-come, first-served basis, up to the limit of the funding provided by Medicare to the states. The funding amounts are capped through 2002, with no provision for continuation thereafter.

eral (and state) spending for the health care of Medicare enrollees takes place through Medicaid (see Box 4-2).

Although any projection is highly uncertain, the assumptions behind the longer-term projections used here (based on methods used by Medicare's trustees) may not be realized under current law. The projections assume that growth in Medicare spending per beneficiary will gradually slow between 2008 and 2020 to be more in line with growth in average hourly earnings. As a result, the increase in spending as a percentage of GDP that is expected to occur after 2020 accounts for growth only in the number of Medicare beneficiaries as a share of the population. In particular, the projections assume that average annual growth in Medicare spending per beneficiary will drop from 5.5 percent before 2005 to only 4.3 percent after 2020.

Major Issues

Medicare has been highly successful in achieving its primary objective: ensuring access to mainstream medical care for the aged and, later, for the disabled. Before Medicare, few aged or disabled people had the protection offered by health insurance. Today, most of those individuals have access to public insurance for a premium equal to only about 10 percent of average benefits. (Premiums cover 25 percent of SMI costs,

and SMI outlays are about 40 percent of total Medicare spending. The SMI share will increase over the next few years as some home health spending is shifted to SMI from the HI program under provisions of the Balanced Budget Act of 1997.)

Under current law, however, Medicare spending will become increasingly burdensome to the economy. If no action is taken, government spending on health care for Medicare enrollees will consume a rapidly growing share of GDP, crowding out spending for other needs.

Federal spending for Medicare could be reduced by increasing the premiums or cost-sharing requirements imposed on beneficiaries. But that approach by itself, without changing the options available to beneficiaries, could threaten access to medical care for some enrollees. It would reduce federal costs only by shifting them to beneficiaries, with little improvement in mechanisms for limiting growth in the total costs of care.

Broader policy goals would be served by putting policies in place that would slow the growth in total (not just federal) costs for health care for the Medicare population. Such policies would encourage beneficiaries and health care providers to make more cost-effective choices than many now do. If successful, that approach would reduce the resources used for health care and ensure continued access to medical care for Medicare beneficiaries. Whether such efficiencies can be achieved, however, is uncertain.

Currently, about 87 percent of beneficiaries are enrolled in Medicare's fee-for-service sector, in which financial incentives encourage providers to supply more services than may be necessary. Moreover, patients have little financial reason to refuse any services that may be of some benefit, because they pay only a fraction of the costs of the services they use. Beneficiaries have the option of enrolling in Medicare's risk-based sector, in which financial incentives (through capitated payments, or predetermined amounts per enrollee) encourage plans to limit services. Currently, all plans in Medicare's risk-based sector are health maintenance organizations (HMOs), which are thought to provide more cost-effective care than is provided in the fee-for-service sector. But only about 13 percent of beneficiaries now choose that option despite the more generous benefits that most HMOs offer at little or no supplemental premium cost. Further, Medicare's costs for people who choose an HMO are probably higher than they would have been in the fee-for-service sector because Medicare's payments to HMOs (which are based on its costs per enrollee in the fee-for-service sector) do not adequately adjust for the favorable selection (enrollment of lower-cost people) that HMOs tend to experience among Medicare enrollees.

Structural changes in the Medicare program may be required to achieve a significant cut in the rate of growth of spending—changes beyond those incorporated in the Balanced Budget Act. Under that legislation, the kinds of private plans that enrollees may choose instead of Medicare's traditional fee-for-service sector will be expanded, and enrollees will have comparative information about all the alternatives open to them during an annual open-enrollment period. Those provisions are intended to encourage development of more risk-based options for Medicare enrollees and to accelerate the already rapid growth of enrollment in Medicare's risk-based sector, reducing the current dominance of Medicare's relatively unmanaged fee-for-service sector. There is some evidence that health care costs drop when patients move from fee-for-service plans into risk-based plans offering managed care in a competitive market. However, the Balanced Budget Act makes no fundamental changes in Medicare's payment methods for risk-based plans—which link capitation rates to per capita costs in the fee-for-service sector. Consequently, Medicare will capture few of the savings that managed care can generate, when compared with unmanaged fee-for-service coverage, until it develops market-based payment methods.

Creating a viable competitive market for risk-based health plans serving Medicare enrollees is a complex undertaking that may take years to achieve in all metropolitan areas and may never be achievable in less populated ones. In those locales where competing plans were offered, the success of such an approach would depend critically on how well enrollees could compare the various plans that were offered with respect to quality as well as price. It would also depend on whether enrollees were willing to change plans (and probably providers) if their plan was no longer a good value. Moreover, creating such a market involves difficulties—especially in setting payment rates and accounting for selection bias among plans—that could result in higher rather than lower federal spending if they were

not addressed appropriately. A further issue is patients' access to care. Because risk-based plans have financial incentives to undertreat (rather than overtreat, as in the fee-for-service sector), effective provisions would be needed to ensure that patients were not denied appropriate services.

If Medicare continued to set payment rates for risk-based plans on the basis of its costs per enrollee in the fee-for-service sector, as it does now, the savings from managed care would go (as they do now) toward enhancing benefits for enrollees or toward HMO profits—rather than toward reducing federal spending. Demonstration studies are in the planning stages, but Medicare has no experience yet with alternative methods—such as competitive bidding by plans—for establishing payment rates.

In the long run, a competitive market for Medicare services would be feasible only if plans competed on the basis of quality and cost rather than on their ability to select good risks. To avoid competition on the basis of risk, Medicare must base its payments to plans on the expected costs of those actually enrolled in each plan. Analysts generally believe that Medicare's existing methods of risk adjustment do not adequately account for the selection bias experienced by risk-based plans. The Balanced Budget Act mandates the addition of a risk factor for health status by 2000, but what measure will be used and how much it will improve the payment system are as yet unknown. In the absence of good methods for adjusting for risk, Medicare must monitor the offerings and the enrollment and disenrollment patterns of competing risk-based plans to identify and eliminate inappropriate practices.

The longer the Congress waits to initiate fundamental restructuring of Medicare, the more difficult it will be to keep Medicare spending within acceptable limits. If Medicare's current fee-for-service sector is left intact, the Congress may also want to consider further changes in medigap requirements. ("Medigap" refers to private insurance plans that supplement Medicare by covering all or most of Medicare's cost-sharing requirements.) The coverage typically provided by medigap plans eliminates the effects of Medicare's cost-sharing requirements in curtailing the use of services by beneficiaries. The Balanced Budget Act expanded the types of allowable medigap plans to include two high-deductible options, which would limit enrollees' out-of-pocket costs while preserving their incentives to use services prudently. However, it also retained the preexisting 10 plans that provide nearly first-dollar coverage.

Approaches and Illustrative Options

The approaches and illustrative options discussed below are intended to slow the growth in federal spending for Medicare. Also important, however, is maintaining ready access to medical care for Medicare enrollees and fostering a reduction in total health care costs—rather than simply shifting federal costs for Medicare to enrollees or other payers. CBO's analysis assumes that even under current law the rate of growth in Medicare spending per enrollee will gradually slow after 2008 to be more in line with growth in average hourly earnings (similar to the assumption made by Medicare's trustees), rather than continuing at the current, more rapid rate.[2]

Raise the Age of Eligibility

The age of eligibility for Medicare could be gradually increased from 65 to 67, phased in from 2003 through 2025, to be consistent with currently scheduled increases in the normal retirement age for Social Security benefits. Compared with current law, that option would reduce Medicare enrollment by about 7 percent and spending by about 3 percent a year once it was fully in place. By 2070, net spending for Medicare would be about 6.6 percent of GDP instead of 6.8 percent as under current law (see Table 4-3). Spending and SMI premium collections would fall by less than enrollment because people who are 65 or 66 are typically the least costly enrollees, so that average costs for the remaining enrollees would be higher. GDP and HI payroll taxes might increase somewhat, depending on how many of the people affected by the delay in Medicare eligibility chose to postpone retirement and to what extent their

2. Beyond the first 25-year projection period, Medicare's trustees assume that HI costs per unit of service will increase at the same rate as average hourly earnings and that SMI costs per enrollee will increase at the same rate as GDP per capita.

decisions increased total employment. However, any such effects would be small and are not estimated here.

Alternatively, increasing the age of eligibility to 70 and phasing in the change from 2003 through 2032 would ultimately reduce Medicare spending by about 11 percent a year. Enrollment would fall by about 20 percent once the higher age of eligibility was fully in place. By 2070, net spending for Medicare would be about 6.1 percent of GDP.

Although raising the age of eligibility would reduce Medicare spending, it would do little to reduce total health care costs for those eligible for Medicare under current law. Further, it would lengthen the period of time during which those opting for early retirement under Social Security (at 62) might have difficulty getting insurance coverage. That disadvantage could be lessened, though, by coupling this approach with an option under which early retirees could buy Medicare coverage by paying an actuarially fair premium.

One effect of delaying the normal eligibility age for benefits would be to shift costs that are now paid by Medicare to enrollees and employers who continued to offer health insurance to their retirees. The higher costs to employers might reduce the number of them who offered retiree health benefits, thereby accelerating current trends. Another effect might be to increase the number of applications for disability from the affected population, which would reduce the savings that Medicare might otherwise realize. The latter effect would probably be small and is not estimated here.

Raising the age of eligibility would also affect federal and state spending for Medicaid because about 15 percent of Medicare enrollees receive Medicaid benefits as well. (The percentage of Medicare enrollees who are also eligible for some benefits from Medicaid will increase under the Balanced Budget Act, which extends eligibility for limited benefits from the current criterion of income up to 120 percent of the poverty line to income up to 175 percent of the poverty line.) If Medicaid's eligibility conditions were unchanged, raising the eligibility age for Medicare would have two offsetting effects on Medicaid spending. For Medicare beneficiaries who were also eligible for full Medicaid benefits, Medicaid spending would increase as Medicare with-

Table 4-3.
Medicare Enrollment and Spending Projected to 2070, Assuming That the Age of Eligibility Is Raised

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of Medicare Spending	Premiums as a Percentage of Enrollee Income[a]
			Age of Eligibility Raised to 67 by 2025			
1995	13.6	2.6	0.3	2.3	10.7	3.2
2010	14.8	3.6	0.5	3.2	12.8	5.1
2030	20.5	6.1	0.8	5.3	13.2	6.3
2050	21.6	6.8	0.8	6.0	12.2	6.2
2070	23.2	7.5	0.9	6.6	12.3	6.4
			Age of Eligibility Raised to 70 by 2032			
1995	13.6	2.6	0.3	2.3	10.7	3.2
2010	14.6	3.6	0.5	3.1	12.8	5.1
2030	17.9	5.6	0.7	4.9	13.2	6.7
2050	18.5	6.2	0.8	5.5	12.2	6.6
2070	20.1	6.9	0.9	6.1	12.3	6.8

SOURCE: Congressional Budget Office.

a. Enrollees' average income is assumed to increase at the same rate as GDP per capita.

Table 4-4.
Medicare Enrollment and Spending Projected to 2070, Assuming That Collections from Enrollees Are Increased to Cover 50 Percent of SMI Costs Starting in 2000

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of Medicare Spending	Premiums as a Percentage of Enrollee Income[a]
1995	13.6	2.6	0.3	2.3	10.7	3.2
2010	15.2	3.7	0.9	2.7	25.7	10.0
2030	22.0	6.3	1.7	4.6	26.4	12.2
2050	23.1	7.0	1.7	5.3	24.5	12.0
2070	24.7	7.8	1.9	5.8	24.6	12.5

SOURCE: Congressional Budget Office.

NOTE: SMI = Supplementary Medical Insurance (Part B of Medicare).

a. Enrollees' average income is assumed to increase at the same rate as GDP per capita.

drew its support for the affected age group. But Medicare beneficiaries who were eligible only for limited Medicaid benefits (that is, payment of Medicare premiums and sometimes its cost-sharing requirements) would lose their eligibility for Medicaid along with their eligibility for Medicare, thereby reducing Medicaid spending. Since even the direction of the change in spending for Medicaid is uncertain, that effect is not estimated.

Collect More in Premiums from Medicare Enrollees

Premiums paid by Medicare's SMI enrollees now cover about 25 percent of the average benefit paid through that program, although the premium was intended to cover 50 percent of SMI costs when Medicare was first established. Increasing collections from beneficiaries to cover 50 percent of Medicare's SMI costs for 2000 and later years would reduce federal spending by about 15 percent. Net spending for Medicare would then be about 5.8 percent of GDP in 2070 (see Table 4-4).

If premiums were increased for all enrollees regardless of their circumstances, though, the increase could impose financial hardship on lower-income enrollees who were not eligible for Medicaid. In addition, it would raise Medicaid costs for Medicare enrollees who were also receiving Medicaid benefits.[3]

One alternative would vary the amounts that Medicare collected from enrollees on the basis of their financial resources. For example, the current flat premium might be replaced with a sliding scale: premiums would be set to collect an average of 50 percent of Medicare's SMI costs, but they would vary directly with enrollees' income. Thus, premiums might be set at zero or some nominal amount for enrollees with the lowest income, at 100 percent of the SMI insurance value for those with income above a certain high threshold, and at intermediate amounts for middle-income enrollees. That approach would collect larger amounts from enrollees who could afford to pay more and could eliminate premium costs for enrollees with the lowest in-

3. Under the Balanced Budget Act, Medicare will provide grants to state Medicaid programs to fund the costs of the Medicare buy-in for qualifying individuals, or QIs (people whose income is greater than 120 percent but less than 175 percent of the poverty line). If those grants were an uncapped entitlement, any approach that increased Medicare's premiums would also generate some offsetting costs to Medicare because of the costs of funding the buy-in for QIs. However, the funding provided for this entitlement is capped at a level below that required to fully cover all the costs for QIs, even at current-law premium levels. Consequently, there are no offsetting costs to Medicare from options that would increase its premiums.

come. Consequently, it would incorporate into Medicare's structure part of the subsidy for low-income enrollees that Medicaid now provides. But it would also increase implicit marginal tax rates for Medicare enrollees as a result of phasing out the subsidy for higher-income enrollees.

Increasing premiums would reduce net federal spending for Medicare but only by shifting more costs to enrollees. It would do little or nothing to induce slower growth in total health care costs. The premiums that Medicare enrollees now pay average about 3 percent of their income. Under this option, Medicare premiums on average would consume more than 10 percent of enrollees' income each year after 2010. Those costs for enrollees could be reduced only by spreading them over a larger (non-Medicare) population or by slowing the growth in health care costs to a greater extent than the projections assume.

If the higher premium was also imposed on low-income enrollees, this option would increase spending for Medicaid because Medicaid pays the Medicare premiums for some low-income Medicare beneficiaries. The resulting increase in federal spending for Medicaid (the federal share is about 57 percent of total Medicaid spending) would be small, though, and would raise net federal spending by less than 0.1 percent of GDP.

Slow the Growth in Medicare Spending per Enrollee

The growth in Medicare spending per enrollee might be slowed, at least temporarily, by any of three options. One that has been used extensively in the past would reduce the rates paid to Medicare providers. Another, which has not been used much, would increase the cost-sharing amounts that beneficiaries must pay. A third would restructure the Medicare market to give patients and providers greater incentives to make cost-effective health care choices.

Reduce Payment Rates. Rates for Medicare's fee-for-service providers normally increase each year in line with indexes of costs developed by the Health Care Financing Administration. If the Congress elects to update rates by less than the increases in the relevant cost indexes, payment rates will be lower than the rates Medicare would have paid if the Congress had not acted. Typically, however, the federal government does not realize all of the potential savings from lower payment rates because providers are able to offset part of their potential loss in receipts from Medicare by increasing the volume of services for which they bill. Nevertheless, reducing payment rates can lower both federal and total health care costs for Medicare because providers are generally unable to offset all of their potential loss in receipts, at least not from Medicare patients alone. If lower payment rates cut Medicare's fee-for-service costs, payment rates to HMOs would also be reduced under current law because those rates are based on Medicare spending per enrollee in the fee-for-service sector.

One undesirable aspect of cutting payment rates is that some providers might try to maintain revenues by shifting costs to other payers—although their ability to do so is lessening as private insurers adopt more aggressive rate-setting policies of their own. A further concern would be access to care for Medicare enrollees, which could be threatened if the program's rates fell too far below those paid by other insurers. However, few people thus far seem to have had trouble obtaining care, even though current estimates indicate that Medicare pays only 70 percent to 80 percent of the average rates that private insurers pay to hospitals and physicians.

Another undesirable feature of this approach is that regulatory price setting often results in inappropriate, and therefore inefficient, prices—either lower or higher than the level necessary to generate an adequate response from providers. Problems with access to care for beneficiaries would soon signal that Medicare's payment rates were too low, but no comparable mechanism would alert policymakers when its payment rates were higher than necessary. In some geographic areas and for some services (durable medical equipment, for example), Medicare's current payment rates may be higher than market-based rates. Demonstration studies are planned to assess the feasibility of and potential savings from using competitive bidding to set some of Medicare's payment rates.

Increase Cost-Sharing Requirements. This option would reduce federal spending for Medicare by shifting costs to enrollees, but it would not necessarily affect total costs. Although, in principle, cost-sharing requirements can encourage enrollees to be more prudent consumers of health care, that effect is weak in the

Medicare program because most enrollees have supplementary coverage.

About 15 percent of Medicare beneficiaries also receive Medicaid benefits that pay all of their cost-sharing liabilities under Medicare. Another 70 percent have medigap, an HMO supplement, or non-HMO employment-based coverage. Medigap plans and HMOs typically cover most of Medicare's cost-sharing requirements. The only common exclusion (affecting about 40 percent of people with medigap coverage) is the $100 deductible for Supplementary Medical Insurance. People who have employment-based plans generally pay the cost-sharing requirements of their private plan or Medicare, whichever is lower. Except for the deductible amount, which is generally higher than $100, employment-based plans typically have lower cost-sharing requirements than does Medicare.

Thus, only an increase in the SMI deductible would be likely to reduce the use of services by people who have private insurance supplements. And no change in Medicare's cost-sharing requirements would affect the use of services by those who also receive Medicaid benefits. But any increase in cost-sharing requirements would reduce the services used by the 15 percent of enrollees who have no supplement.

To illustrate the way in which supplementary coverage negates the effects of Medicare's cost-sharing requirements on enrollees' use of services, consider the following example. Increasing the SMI deductible to $1,000 a year would have reduced federal spending for Medicare by an estimated 9 percent for 1997, but total costs would have dropped by less than 1 percent, given current patterns of supplementary coverage. In other words, most of the effect would have been a shift of costs from Medicare to enrollees, with very little reduction in the services used. By contrast, if the requirements for medigap plans in 1997 had been different, such that plans capped the liabilities of enrollees for cost sharing under Medicare at $1,000 a year rather than covering them all, both federal and total costs for Medicare would have been lower by about 3 percent, a reduction caused entirely by a drop in the use of services.[4]

Restructure the Medicare Market. The option discussed here would involve setting up a system of competing health care plans, with the federal government contributing a fixed amount toward the premium for each enrollee's plan. One important way in which this would differ from current law is that Medicare's traditional fee-for-service sector (if it remained in existence) would be just one of several plans, all competing on the same basis.

In such a restructured market, all plans would offer at least a specified basic benefit package. Plans could offer optional supplements to their basic package, but no plan could offer supplements to another plan's package. Without that restriction, plans could offer only supplemental coverage, as medigap plans now do. But medigap insurers do not bear the full costs of the coverage they provide. Most of the costs of the additional services that people with medigap coverage use are actually imposed on Medicare—the insurer that provides coverage for the basic benefit package. By permitting supplemental coverage only when it is linked to a basic benefit package offered by the same insurer, all of the costs generated by medigap plans under current law would be internalized—that is, borne by the medigap insurer.

Thus, insurers currently offering medigap plans that wanted to continue to serve the Medicare market would have to offer full coverage for Medicare's basic package along with their supplemental benefits on the same basis as all other plans serving the Medicare market. Under current law, the constraints imposed on HMOs and medigap plans differ significantly, although both supplement the basic Medicare benefit package. For example, HMOs must offer the same premium to all Medicare enrollees in the same plan (community rating) and may impose no exclusions on coverage of preexisting conditions. Medigap plans may rate their premiums on the basis of age, base premiums on risk status for those who enroll after the first six months of Medicare eligibility, and impose a six-month exclusion on coverage of preexisting conditions for new enrollees who were not covered previously.

Under this approach, enrollees could choose the benefit package they preferred from the menu of plans

4. Medigap coverage increases enrollees' use of services by an estimated 24 percent. See S. Christensen and others, "Acute Health Care Costs for the Aged Medicare Population: Overview and Policy Options," *The Milbank Quarterly*, vol. 65, no. 3 (1987). See also Chapter 16 in Physician Payment Review Commission, *Annual Report to Congress* (1996).

available in their area during an annual open-enrollment period. Medicare would contribute a fixed amount per enrollee toward the premiums charged by the plans. Actual payments from Medicare to the plans would have to be adjusted for risk to discourage competition among the plans based on the characteristics of enrollees rather than price and quality. From the enrollees' perspective, however, Medicare's contribution toward their premiums would be uniform as long as plans were required to set community-rated premiums, as they are under current law.

Enrollees would be fully responsible for any plan premiums in excess of Medicare's contribution and might receive rebates for choosing plans (if any were available) that cost less than Medicare's contribution. (If rebates were not offered, no plans would set premiums below the federal contribution, even if their costs were lower. Instead, they would compete for enrollees by offering a richer benefit package—just as HMOs in Medicare's risk-based sector do now.) Thus, Medicare's method of contributing to the costs of their health plan would give enrollees financial incentives to be prudent purchasers of a plan. Moreover, the comparative information provided during the open-enrollment period would enable them to select the lowest-cost plan that would meet their needs. Because plans would be at risk for any costs above their predetermined premium collections, they would have financial incentives to limit unnecessary services, either by imposing controls on providers or cost-sharing requirements on beneficiaries.

Medicare's contribution could be set in one of two ways: to equal the premium charged by the basic benefit plan in each area that had the lowest cost, or to equal some value set independently of the actual costs of the plans. In the former case, Medicare would continue to guarantee a defined benefit, and taxpayers would bear the financial risk if health care costs increased more rapidly than expected. In the latter case, Medicare would offer only a defined contribution, with no assurance that the contribution would be sufficient to purchase the basic benefit package.

Medicare could be certain of controlling its costs only under the defined contribution approach, which would shift the financial risks posed by growth in health care costs to plans—and ultimately to enrollees through premiums. Either approach would make both enrollees and providers more prudent in their use of health care services. Supplemental premiums would generally be higher for Medicare beneficiaries who chose to remain in loosely managed plans than for beneficiaries in tightly managed plans, thereby accelerating the movement of enrollees to HMOs that is already occurring.

Given a coordinated open-enrollment period (already established in law, starting late 1999) and the new pricing system, competition among plans for enrollees would intensify. If methods were adequate for adjusting payments among plans on the basis of risk, competition would focus on providing services more efficiently rather than on enrolling low-cost beneficiaries. Consequently, growth in both federal and total costs per enrollee might be slowed compared with growth under current law.

For example, Medicare's defined contribution could be set to equal net spending per enrollee in 2000 (adjusted for geographic differences in costs) and increased by specified percentages in later years that might be lower than the growth in health care costs. However, a delay of a few years might be necessary to give Medicare time to transform its fee-for-service sector into a health care plan capable of competing with other risk-based plans serving Medicare enrollees. Alternatively, Medicare's fee-for-service plan could be eliminated in favor of the private fee-for-service plans that may, under the Balanced Budget Act, serve Medicare enrollees in the risk-based sector. If Medicare's fee-for-service plan was retained, it would have to become more efficient to keep its premium at a competitive level. Furthermore, gains in efficiency would have to be large enough to offset any loss in the substantial leverage that Medicare currently has in setting providers' fees. Medicare's leverage would weaken as its fee-for-service enrollment fell as a share of the patient population in an area.

In the illustrative option examined here, the Medicare market would be unchanged until 2000. Thereafter, the amount of Medicare's contribution in 2000 to the health plan premiums of enrollees would increase by 4 percent a year—equal to the average annual rate of growth projected for GDP per capita.

Although the effects of this defined contribution approach on federal costs can be predicted with some certainty, its effects on total costs for the basic benefit

package—and therefore on the costs that enrollees would bear—are uncertain. If the average rate of growth in total costs per enrollee slowed only to the average rate for the long-term projections (4.7 percent a year), the premiums of enrollees as a percentage of income would increase from 3 percent in 1995 to about 23 percent in 2070 (see Table 4-5). However, some plans in each area would probably endeavor to offer the basic benefit package for a premium equal to Medicare's defined contribution so that there would be no supplemental premium to collect. Enrollees in those plans would be liable only to Medicare for the basic SMI premium. In that case, the premiums of enrollees would increase very little over time as a share of their income.

If through increased efficiency some plans were able to reduce the rate of growth in total costs per enrollee to the rate of increase in Medicare's defined contribution, those plans would probably dominate the Medicare market. However, if improvements in efficiency did not cut costs sufficiently, so that low-cost plans had to restrict access or reduce the quality of their services, a two-tiered Medicare market would probably develop. Lower-income enrollees would tend to choose low-cost plans in which access and quality were poor, whereas higher-income enrollees would be more likely to opt for more expensive plans with less severe restrictions.

The effects of this option on spending for Medicaid would depend on the extent to which the option slowed the growth in total Medicare costs and on whether Medicaid limited the choice of plans for Medicare beneficiaries who were eligible for both programs. If growth slowed to match the growth in the defined contribution, then spending for Medicaid would fall because the dollar value of Medicare's cost-sharing requirements would drop substantially, whereas premiums would increase only a little compared with current law. If the

Table 4-5.
Medicare Enrollment and Spending Projected to 2070, Assuming an Annual Increase of 4 Percent in Medicare's Defined Contribution After 2000

Calendar Year	Enrollment as a Percentage of Population	Spending as a Percentage of GDP	Premiums as a Percentage of GDP	Net Spending as a Percentage of GDP	Premiums as a Percentage of	
					Medicare Spending	Enrollee Income[a]
Assuming Average Growth in Costs per Enrollee Is 4.7 Percent a Year After 2000						
1995	13.6	2.6	0.3	2.3	10.7	3.2
2010	15.2	3.7	1.0	2.6	28.4	11.0
2030	22.0	6.3	2.4	3.9	38.3	17.6
2050	23.1	7.0	3.0	4.0	42.8	21.0
2070	24.7	7.8	3.5	4.3	44.7	22.7
Assuming Average Growth in Costs per Enrollee Is 4 Percent a Year After 2000						
1995	13.6	2.6	0.3	2.3	10.7	3.2
2010	15.2	3.0	0.3	2.6	10.9	3.4
2030	22.0	4.4	0.5	3.9	10.9	3.5
2050	23.1	4.5	0.5	4.0	10.9	3.4
2070	24.7	4.8	0.5	4.3	10.9	3.4

SOURCE: Congressional Budget Office.

a. Enrollees' average income is assumed to increase at the same rate as GDP per capita.

growth in total Medicare costs exceeded growth in the defined contribution, spending for Medicaid would probably increase as a result of higher premium costs—assuming that dually eligible beneficiaries were free to choose any plan they wanted. If Medicaid instead assigned dually eligible beneficiaries to the lowest-cost plans, then spending for Medicaid would probably fall. Because of that uncertainty, CBO did not estimate the effects of this option on Medicaid spending, although spending would be more likely to fall than to increase.

Conclusions

The effects of the three illustrative options discussed earlier are compared here, under the assumption that average annual growth in Medicare spending per enrollee will gradually slow between 2008 and 2020, as Medicare's trustees assume. However, only the third option—restructuring the market—would put into effect policies that were specifically intended to achieve slow-

Table 4-6.
Effects of Illustrative Options for Reducing Growth in Net Spending for Medicare

Option	2010	2030	2050	2070
Net Federal Spending as a Percentage of GDP				
Current Law	3.2	5.5	6.2	6.8
Raise the Age of Eligibility[a]				
To 67	3.2	5.3	6.0	6.6
To 70	3.1	4.9	5.5	6.1
Collect 50 Percent of SMI Costs from Enrollees[b]	2.7	4.6	5.3	5.8
Restructure the Medicare Market and Limit Growth in Medicare's Defined Contribution to 4 Percent a Year[c]	2.6	3.9	4.0	4.3
Savings as a Percentage of Projected Spending				
Raise the Age of Eligibility[a]				
To 67	1	3	3	3
To 70	2	11	11	11
Collect 50 Percent of SMI Costs from Enrollees[b]	15	15	14	14
Restructure the Medicare Market and Limit Growth in Medicare's Defined Contribution to 4 Percent a Year[c]	18	29	35	37

SOURCE: Congressional Budget Office.

NOTE: SMI = Supplementary Medical Insurance (Part B of Medicare).

a. The age of eligibility for Medicare would be increased to 67 by 2025 or to 70 by 2032.

b. SMI premiums would be increased to cover 50 percent of SMI costs starting in 2000.

c. Medicare's per-enrollee contribution in 2000 would be increased by 4 percent a year thereafter.

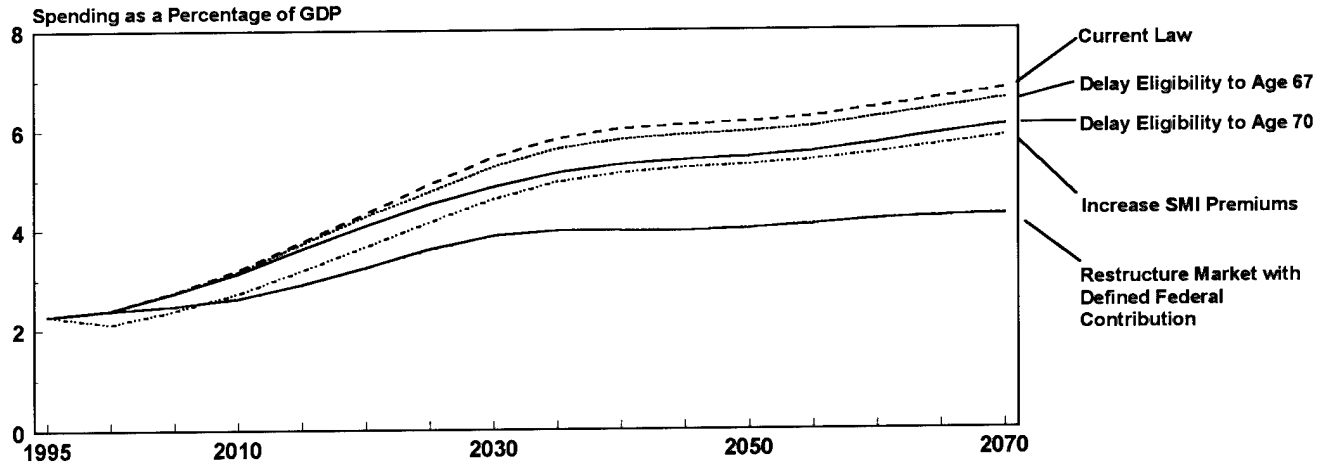
er growth in total costs per enrollee. The first approach would reduce federal spending by reducing enrollment but have no significant effect on growth in costs per enrollee. The second approach—increasing premiums paid by enrollees without fundamentally changing the Medicare market—would reduce net federal spending but not total costs.

The first option would reduce total enrollment in Medicare by delaying the age of eligibility. If eligibility was delayed to 67, net spending for Medicare would be 3 percent lower by 2030 compared with current law; if eligibility was delayed to 70, spending would be 11 percent lower (see Table 4-6). Net spending would continue to grow relative to GDP but at a slower rate (see Figure 4-1). Premiums as a percentage of enrollee income would increase a little compared with current law because the older age group who would remain eligible would be more costly per enrollee and premiums would collect a fixed share of those costs (see Figure 4-2).

The second option would increase enrollees' premiums to cover 50 percent of Medicare's SMI spending by 2000, reducing net Medicare spending by about 15 percent a year thereafter. The option would have little or no effect, however, on growth in total costs for Medicare. Currently, enrollees' premiums are only 3 percent of their average income, but under this approach premiums would rise to 12 percent of the average income of enrollees by 2030. Unless the premium was related to income, higher premiums could force some low-income enrollees who were not eligible for Medicaid benefits to leave the Medicare program.

The third option would restructure the Medicare market and either make its traditional fee-for-service sector one of a number of competing plans serving enrollees or eliminate it altogether. Enrollees would receive a fixed federal contribution toward the premium of the plan they selected and would pay out of pocket for any excess premium. Medicare's defined contribution would be set equal to net spending per enrollee in 2000 and increase by 4 percent a year thereafter. That plan would establish control over federal spending for Medicare on a per-enrollee basis. Compared with current law, net Medicare spending would be reduced by 29 percent in 2030 and by 37 percent in 2070. Although the federal subsidy per enrollee would be smaller than it would be under current law, competition among plans and providers could spur efficiency and increase real health benefits for each dollar spent.

Figure 4-1.
Net Medicare Spending as a Percentage of GDP Under Alternative Options



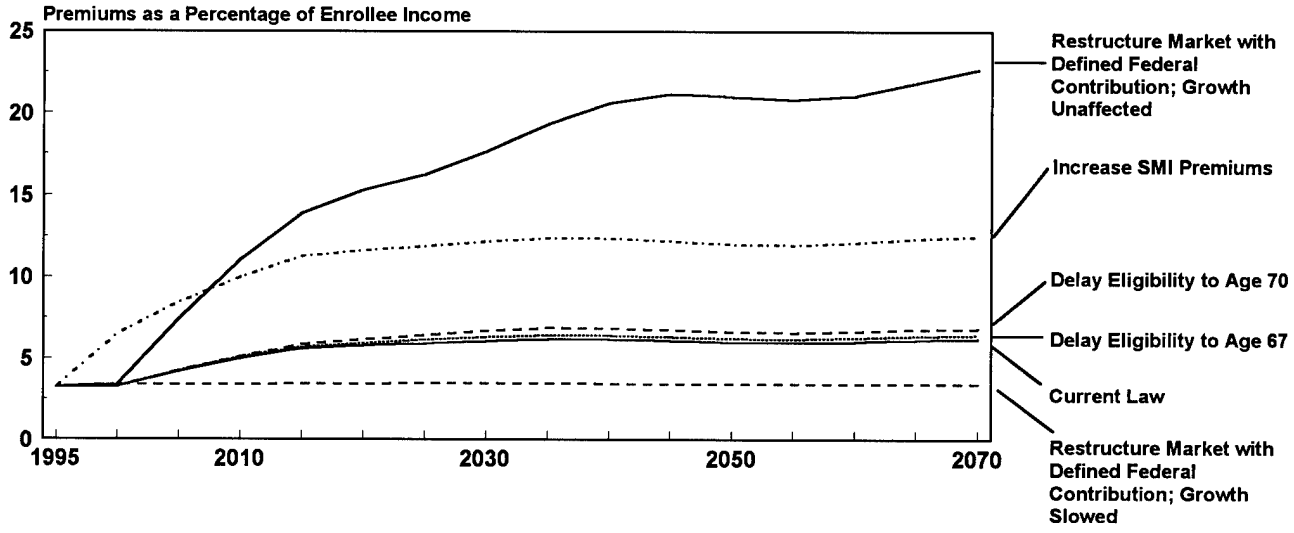
SOURCE: Congressional Budget Office.

NOTES: Data are plotted at five-year intervals. SMI = Supplementary Medical Insurance (Part B of Medicare).

But the effect restructuring would have on enrollees is uncertain. If the incentives for more cost-conscious behavior that the approach generated reduced annual growth in total costs per enrollee only to the rate assumed for the long-term projections, the premiums paid by enrollees would steadily increase, reaching 18 percent of their income by 2030 and 23 percent by 2070. If, instead, the growth in costs per enrollee slowed to match the annual growth in the federal defined contribution (4 percent), premiums would be only 3.4 percent of income in 2070.

In practice, the effects of restructuring would differ among various groups of enrollees. Some basic plans might keep their costs low enough to avoid having to charge a supplemental premium, but the access and quality of services available in those plans might limit their appeal primarily to low-income people. Higher-income enrollees might gravitate instead to plans that charged supplemental premiums and provided better access and quality.

Figure 4-2.
Medicare Premiums as a Percentage of Enrollee Income Under Alternative Options



SOURCE: Congressional Budget Office.

NOTES: Data are plotted at five-year intervals. SMI = Supplementary Medical Insurance (Part B of Medicare).

Chapter Five

The Long-Term Impact of Options for Social Security and Medicare

The previous two chapters examined various approaches to curb the growth of spending for Social Security and Medicare. What would the long-term impact of those approaches be on the budget and the economy? Answering that question requires more than simply projecting outlays for the individual programs. One must also consider how those policies would affect the rest of the budget and the economy as a whole. For example, because the options would curb spending, they would reduce the federal government's need to borrow, which in turn would lower the cost of servicing the federal debt and further brighten the long-term outlook. In addition, some of the options would alter spending on other programs in the budget, such as Medicaid. All of those effects must be analyzed together when assessing the impact of the various options in the long run.

If put in practice, many of the policies presented in Chapters 3 and 4 would significantly reduce the long-term imbalance in the federal budget. Compared with current policy, they would lessen the economic risk of unsustainable deficits and thus enhance the economic prospects for future generations. Of course, reducing the growth of Social Security benefits and making major changes in the Medicare program could adversely affect future retired and disabled workers, their families, and their survivors. However, any option to reduce the long-term imbalance in the budget would be painful. The alternative of doing nothing indefinitely is not an option.

The Effects of Individual Options on the Long-Term Outlook

One way the Congressional Budget Office gauges the long-term impact of policies is by estimating how they would change the fiscal gap—the summary measure of budgetary imbalance described in Chapter 2. That measure represents the amount that taxes would have to be permanently raised, or spending permanently reduced, to ensure that federal debt remained at or below its current percentage of gross domestic product for the foreseeable future. The larger the gap in the budget, the more that taxes would have to rise or spending would have to fall.

CBO estimates that the fiscal gap is about 1.6 percent of GDP under current policy. Because both federal revenues and outlays are around 20 percent of GDP, that gap represents about 8 percent of total federal receipts or outlays. Of course, suddenly raising taxes or cutting spending by that magnitude would be neither practical nor desirable. For one thing, it could push the economy into a recession. Moreover, such an abrupt policy change would not give people enough time to adjust their saving and retirement plans so as to ease the transition to a sustainable policy. In addition, CBO's estimate of the fiscal gap, like its long-term pro-

jections, is inherently uncertain and dependent on many assumptions about future events. Nonetheless, the fiscal gap offers a rough estimate of the size of the long-term problem facing the federal budget. It also provides a convenient way to compare alternative policies for resolving that problem.

In its March 1997 report *Long-Term Budgetary Pressures and Policy Options*, CBO estimated the long-term effects of a similar group of options for reducing the growth of Social Security and Medicare. Some of the options in that report are also included in this volume; not surprisingly, the estimates of their effect on the fiscal gap have not changed much. Other options have been modified since last year; those changes are noted below.

Social Security Options

The three specific policy options to control the growth of Social Security spending that were examined in Chapter 3 would each narrow the fiscal gap by about one-quarter (see Table 5-1). The first option would reduce the initial benefits that each successive cohort of workers received by 0.5 percent a year, starting in 1998 and ending in 2032. By 2032, initial benefits would be 16 percent lower than the level that current law would provide. That option would reduce the fiscal gap by 0.5 percent of GDP, CBO estimates. (In last year's report, CBO included a more stringent variation of this option, which would have cut initial benefits by 30 percent in 2032; it would have reduced the fiscal gap by about 1 percent of GDP.)

Table 5-1.
The Fiscal Gap Under Various Options for Social Security (As a percentage of GDP)

	Policy Options		
	Reduce Initial Benefits[a]	Raise the Retirement Age[b]	Reduce COLAs[c]
Fiscal Gap in Base Scenario	1.6	1.6	1.6
Effect of Policy Option	-0.5	-0.4	-0.5
Remaining Fiscal Gap	1.1	1.2	1.1

SOURCE: Congressional Budget Office.

NOTES: The fiscal gap is measured as the size of the tax increase or spending cut that would be needed to keep the debt at or below its current percentage of GDP from 1997 to 2070.

Some of these options have changed from the ones discussed in last year's *Long-Term Budgetary Pressures and Policy Options* (March 1997). See the text for details.

COLAs = cost-of-living adjustments.

a. Starting in 1998 and ending in 2032, the benefits of each sucessive cohort of workers becoming eligible for Social Security disability or retired-worker benefits would be reduced by 0.5 percent a year. Thus, workers becoming eligible in 2032 or later would receive about 84 percent of the benefits they would have received under current law.

b. The normal retirement age of workers who turn 62 in 2011 would be 67; that age would increase by two months a year until it reached 70 in 2029 and then would increase by one month every other year for the remainder of the projection period.

c. Beginning in December 1998, the cost-of-living adjustment would be set to equal the increase in the consumer price index minus 1 percentage point.

The second option would raise the age at which workers become eligible for full Social Security retirement benefits—the so-called normal retirement age. In the near term, it would accelerate the increase in the normal retirement age to 67 for workers who turned 62 in 2011. After 2011, the retirement age would rise by two months a year until it reached 70 in 2029. After that, the normal retirement age would continue to rise by one month every other year, reflecting projected increases in longevity (see Table 3-1 in Chapter 3 for more details). Those changes would reduce the fiscal gap by 0.4 percent of GDP.

The third option would trim the annual cost-of-living adjustment for Social Security benefits so that monthly benefits increased by 1 percentage point less than the growth of the consumer price index. CBO estimates that this option would narrow the fiscal gap by 0.5 percent of GDP. Note that this option would not reduce COLAs for programs other than Social Security or change the current rules for adjusting personal exemptions and standard deductions in the federal income tax code. Reducing the inflation adjustments in other federal programs and the tax code would further improve the long-term outlook.

Medicare Options

Chapter 4 presented three specific options for controlling the growth of Medicare spending (see Table 5-2). By CBO's estimate, all of those policies would substantially reduce the fiscal gap, and one would virtually eliminate it.

The first option would raise the age at which people were eligible to enroll in Medicare to 70, following a path similar to the one in the second option for Social Security presented above. That option for Medicare would reduce the fiscal gap by 0.4 percent of GDP, CBO estimates.

The second option would increase enrollees' premiums for Part B of Medicare (Supplementary Medical Insurance) so they equaled 50 percent of Part B costs. CBO estimates that doing so would cut the fiscal gap

Table 5-2.
The Fiscal Gap Under Various Options for Medicare (As a percentage of GDP)

	Policy Options		
	Raise the Age of Eligibility[a]	Increase Premiums[b]	Restructure Medicare and Slow Its Growth[c]
Fiscal Gap in Base Scenario	1.6	1.6	1.6
Effect of Policy Option	-0.4	-0.8	-1.4
Remaining Fiscal Gap	1.2	0.8	0.2

SOURCE: Congressional Budget Office.

NOTES: The fiscal gap is measured as the size of the tax increase or spending cut that would be needed to keep the debt at or below its current percentage of GDP from 1997 to 2070.

Some of these options have changed from the ones discussed in last-year's *Long-Term Budgetary Pressures and Policy Options* (March 1997). See the text for details.

a. The age of eligibility for Medicare would rise to 70 for people who turn 65 in 2032.

b. Premiums for Medicare enrollees would be increased to cover 50 percent of Part B costs by 2000.

c. The growth of Medicare's per-enrollee contribution would be limited to the growth of GDP per capita (4 percent) after 2000.

by 0.8 percent of GDP. That option would also increase outlays for the Medicaid program—an effect that is incorporated in CBO's numbers. Because Medicaid pays the premiums for qualified low-income people enrolled in Medicare, some of the costs for those enrollees would shift from Medicare to Medicaid. (CBO included a similar option in last year's report, except that it would have required enrollees to pay 50 percent of Medicare's total—Part A and Part B—costs. That option would have reduced the fiscal gap by about 2.5 percent of GDP.)

The third option for Medicare is to restructure the program by setting up a system of competing health plans—of which Medicare's fee-for-service sector could be one—and limiting the growth in the amount that the federal government contributes for each enrollee after 2000 to the average growth of GDP per capita. CBO estimates that making those changes would cut the fiscal gap by 1.4 percent of GDP. (Last year's report included a more stringent option, which would have constrained the growth of Medicare's costs even more and would have reduced the gap by 2.6 percent of GDP.)

The Effects of Various Policy Packages on the Long-Term Outlook

The Social Security and Medicare options described above could be combined in various ways to make larger dents in the fiscal gap. CBO examined three specific policy packages. They are not intended to cover

Table 5-3.
The Fiscal Gap Under Various Policy Packages (As a percentage of GDP)

	Policy Options		
	Raise the Age for Retirement and Eligibility[a]	Raise the Age for Retirement and Eligibility; Reduce COLAs[b]	Reduce Initial Social Security Benefits; Restructure Medicare and Slow Its Growth[c]
Fiscal Gap in Base Scenario	1.6	1.6	1.6
Effect of Policy Option	-0.8	-1.3	-1.8
Remaining Fiscal Gap	0.8	0.3	d

SOURCE: Congressional Budget Office.

NOTES: The fiscal gap is measured as the size of the tax increase or spending cut that would be needed to keep the debt at or below its current percentage of GDP from 1997 to 2070.

Some of these options have changed from the ones discussed in last year's *Long-Term Budgetary Pressures and Policy Options* (March 1997). See the text for details.

COLAs = cost-of-living adjustments.

a. For Social Security, the normal retirement age of workers who turn 62 in 2011 would be 67; that age would increase by two months a year until it reached 70 in 2029 and then would increase by one month every other year for the remainder of the projection period. For Medicare, the age of eligibility would rise to 70 and remain there.

b. In addition to the changes in note a, the cost-of-living adjustment for Social Security would be set to equal the increase in the consumer price index minus 1 percentage point, beginning in December 1998.

c. Starting in 1998 and ending in 2032, the benefits of each sucessive cohort of workers becoming eligible for Social Security disability or retired-worker benefits would be reduced by 0.5 percent a year. Thus, workers becoming eligible in 2032 or later would receive about 84 percent of the Social Security benefits they would have received under current law. In addition, the growth of Medicare's per-enrollee contribution would be limited to the growth of GDP per capita (4 percent) after 2000.

d. Less than zero.

the full range of possibilities; they merely illustrate some of the possible combinations. Those packages involve:

- Raising the normal retirement age for Social Security and the eligibility age for Medicare;
- Raising both of those ages and limiting Social Security COLAs to the growth of the CPI minus 1 percentage point; or
- Reducing initial Social Security benefits by 16 percent and restructuring the Medicare program by shifting the federal payment to a defined contribution and limiting its growth.

The three packages would narrow the fiscal gap by between 0.8 percent and 1.8 percent of GDP (see Table 5-3). Raising the retirement and eligibility ages would eliminate about half of the current imbalance of 1.6 percent of GDP, whereas raising those ages and reducing Social Security COLAs would close most of the gap. The fiscal gap could be eliminated by reducing initial Social Security benefits, restructuring the Medicare program, and limiting the growth of the federal contribution.

Conclusions

CBO has examined a range of options to curtail the growth of the federal government's two major entitlement programs, Social Security and Medicare, in the long run. Many of those options would go a long way toward reducing the budget's projected long-term imbalance, and some combinations of policies could resolve the long-term problem entirely. Eliminating that budgetary imbalance would provide substantial economic benefits to the nation.

However, efforts to control spending for Social Security and Medicare could pose hardships for people who depend on those programs to meet their needs. Such hardships could be reduced, but that would require making larger cuts in the growth rate of spending for other government programs or imposing higher taxes. Indeed, none of the solutions to the nation's long-term budget problems will be easy. All will require some type of sacrifice, but ignoring those problems indefinitely is not a feasible option.